CHAPTER 8

MANAGEMENT CONTROL SYSTEMS AND THE ORGANISATION STRUCTURE

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CHAPTER 8

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8.1 INTRODUCTION

Organisational theory explicitly takes into account the control function as a determinant of the optimal organisational structure. Starting from Weber¹ and continuing with Taylor² and Fayol³ classical organisation theory has adopted, as one of the primary considerations, the facilitation of control. Even the behaviour school born out of the findings of the Hawthorne⁴ studies and exemplified in the 1960's by McGregor's⁵ 'Theory Y', indirectly focuses on control through its emphasis on motivation.

This concern for control and motivation finds expression in the principle of matching: responsibility and authority. The negative consequences of imbalance between responsibility and authority are considerable. Responsibility without authority destroys motivation. Authority without responsibility could lead to decisions that are not congruent with organisational objectives.

Generalising the basic principle, Miller and Nite's work in the area of organisational structures strongly suggest that a basic consideration in organisational design is that a manager who is held responsible

for a particular 'output' should be given full authority over the
'inputs' required to achieve the specified 'output'.

8.2 CONCEPT OF RESPONSIBILITY CENTRES

This principle of matching responsibility and authority has resulted
in the organisational concept of 'responsibility centres'. In practice
this means that a specified executive should have responsibility for
targeted performance expressed in terms of keeping the costs within the
budgeted limits, achieving budgeted levels of profits, or ensuring
achievement of the budgeted return on investment. Depending on the
nature of the performance criteria, responsibility centres are termed as
cost centres, profit centres, investment centres respectively. The
importance of the responsibility centre concept to the effectiveness of
management control has given rise to the principle of responsibility
accounting. The principle of 'responsibility accounting' provides for
the accountability of individual managers to their superiors who have
delagated responsibility to them. The responsibility centre approach
to organisational structure meets the requirements of the concept of
responsibility accounting.

The depots, divisions, workshops, senior managerial positions etc.
can be classified as responsibility centres. All responsibility centres
produce outputs (that is they do something), and all have inputs (that is,
they use resources). Based on the organisation set-up and the difficulty
in measuring output, input and the relationship between them, we can
identify the following types of responsibility centres:

1 F. N. Anthony, John Dearden, Richard F. Vancil : "Management Control
1) Standard cost centres
2) Revenue centres
3) Discretionary expense centres
4) Profit centres
5) Investment centres.

STANDARD COST CENTRES

If one can establish standard costs for a cost centre like a central workshops in an STU, a measure of output can be determined by multiplying the physical quantity of the output by the unit standard costs for each of the products produced and summing the results. The outputs (either goods or services) are measured at their standard costs. The total actual cost is compared to the total standard cost of the output and variances are analysed. The Works Managers in STUs can be evaluated on how well they meet their standard costs.

REVENUE CENTRES

The output of the traffic operations function in an STU can be measured in terms of the revenue or earnings. Typically a marketing organisation establishes budgets for sales revenue and marketing costs. Periodically actual sales and sales expenses (only marketing expenses) are compared to the budgeted amounts and differences are explained.

DISCRETIONARY EXPENSE CENTRES

Some organisational units have outputs that are not measured in financial terms. These are mostly the personnel, accounting, legal, public relations functions. Financial control system in such areas usually consists of an annual budget or a plan that management approves. Subsequently actual expenditures are compared to the budget.
These comparisons compare budget input to actual input. There is almost never any way to measure the output in monetary terms. Consequently the financial control system is not a reliable measure of performance and, therefore, cannot be used as a basis for overall evaluation of the manager. The system will only motivate the manager to keep his expenses equal to his budget.

**PROFIT CENTRES**

Standard cost centres and revenue centres are measured on a sub set of profitability rather than on total profitability. When a responsibility centre has responsibility for only a sub set of profitability, it is necessary to maintain separate control of other important decisions that affect the other sub sets. This situation limits the degree of decentralisation that is possible. When full profit responsibility is delegated, a great many day-to-day decisions can be delegated that were not possible under the other conditions described. Significant decentralisation of authority is usually accomplished by decentralisation of profit responsibility. For example, if a manufacturing manager is also given responsibility for sales revenue, it will be less necessary to prescribe quality standards, and production schedules because he will be measured on his ability to make the most profitable trade offs between costs, quality and volume of production.

When an organisational unit can be assigned profit generating responsibility and when top management decides that it is advisable to decentralise operating decision-making, then the organisational unit becomes a profit centre. Control systems for profit centres measure inputs, outputs and the relationship between them, which is profit.
INVESTMENT CENTRES

In all profit centres, the control system measures revenue, expense and profit. In some profit centres, the system goes beyond this to measure the assets employed in producing the profit. Such responsibility centres are called investment centres and are the broadest of all.

6.3 TRANSFER PRICING CONCEPTS

When a company decentralises profit responsibility, invariably some financial transactions among the profit centres and between the profit centres and the central staff will be necessary. The greater the degree of vertical integration in a company, the more extensive the internal transactions are likely to be.

In general, inter profit centre financial transactions result from two types of activities:

i) The transfer of goods or services between profit centres

ii) The centralisation of certain types of services for several profit centres.

The transfer of costs between the different centres in the same organisation is generally called transfer pricing. Despite the difficulties of the transfer pricing, it is recognised now that there are many advantages in decentralising profit responsibility to lower levels by creating profit centres. According to Anthony, "There are several reasons for decentralising profit responsibility. First, a manager is in a position to make optimum trade-offs between revenues and costs only when he has profit responsibility. Consequently, unless he is delegated profit responsibility, it will be necessary to control
centrally many of his day-to-day decisions. A second reason for delegating profit responsibility is to give the manager complete operating responsibility so that his performance can be evaluated more precisely. He will, therefore, be motivated to optimize profits since he is evaluated on his ability to earn a satisfactory profit. A third reason for dividing a company into profit centres is to measure the contribution of each organizational unit to the profits of the total company. This information is useful to management in diagnosing where corrective action should be taken.  

While there are only five principal types of financial responsibility centres, selecting one of these as the most appropriate for a particular organizational unit is a difficult problem. It is not enough simply to say that a particular unit is a profit centre; decisions are also required that specify how the profit is to be calculated, focusing in particular on how transfer prices shall be set and how the costs of services received from the other organizational units shall be charged against the unit. The delegation of authority is another prerequisite in identifying the responsibility centres.

Ideally in responsibility centre concept each manager is to pursue his own objective without concern for whether or not his actions are in the best interest of the corporation. However, it is necessary in the management control systems design to ensure that managers are not working at cross purposes; that the set of subordinate objectives have been selected and measured in such a way that a good decision by any manager is also a good decision for the corporation as a whole.

6.4 RESPONSIBILITY CENTRES IN STATE TRANSPORT UNDERTAKINGS

The organisation of the large sized STUs (including the 5 STUs studied) is structured hierarchically in three tiers:

i) Depot
ii) Division
iii) Headquarters

DEPOT AS A RESPONSIBILITY CENTRE

A depot is the unit of operation strategically situated in an area, so that it can operate services which cater to the needs of that area as well as being able to connect the areas to the towns, district headquarters and to the capital of the State. The depots are the primary units of operation looking after the maintenance of the fleet. They are in direct and close touch with the travelling public, Nearly three-fourths of the total employees working in STUs are based at the depots. More than 95% of the revenue of an STU is realised through the operation of buses at depots. Nearly 60-70% of the total expenditure in an STU is incurred at the depot-level. The product-characteristics of road transport, viz; 'instantaneous perishability', requires that a large number of operating decisions will have to be taken quickly and cannot be taken by those away from the operating scene and those who have no direct knowledge of the facts on the basis of which these decisions are to be taken. The depot is, therefore, the nerve-centre of an STU.

DIVISION AS A RESPONSIBILITY CENTER

The depots are generally grouped into divisions on the basis of contiguity and administrative convenience. The geographical divisions
co-ordinate, supervise and control the work of the depots in their jurisdiction. While day to day operations are appropriately the job of the depots, provision of guidance and supervision for the depot managers is the basic responsibility of a divisional manager.

In all the STUs studied, for a group of approximately 6 to 8 depots, on an average a division not too far from the depots is provided. Supervision over about 300 vehicles operation is the responsibility of the divisions in the 5 STUs studied.

8.5 ORGANISATION OF DEPOTS:

In the early years of formation of STUs, although the services were operated from the depots, no important decisions were made at the depot level. The depots had two supervisors, one looking after the traffic operations and the other maintenance of vehicles and they were carrying out instructions received from the Divisional Offices or from the Heads of the departments in the central office. In UPSTC still this is the set up at depots.

This system of management at depots was found inadequate as the areas of operation and the organisation size grew due to faster nationalisation. According to M.P.V. Anantha, "Delays in communication, miscarriage of messages, inadequate reporting, industrial unrest and above all, clientele dissatisfaction became endemic. It was realised that mere decentralised operations without corresponding delegation of authority was just trying to play Hamlet without the Prince of Denmark".1

Hence the decentralised set-up with depot manager responsible for integrated management at the depot-level evolved more as a response to pragmatic needs rather than as a pre-determined process.
The number of depots, minimum, maximum number of schedules in the existing depots, optimum size of the depots fixed, etc. are indicated in the following Table:

**TABLE - 8.1**

**ORGANISATION SET UP AT DEPOTS**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the S.T. Undertaking</th>
<th>Optimum Size of Depots (Schedules)</th>
<th>Size of the Existing Depots</th>
<th>No. of Depots</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.S.R.T.C.</td>
<td>60-70</td>
<td>15</td>
<td>120</td>
</tr>
<tr>
<td>2</td>
<td>U.P.S.R.T.C.</td>
<td>Not fixed</td>
<td>15</td>
<td>152</td>
</tr>
<tr>
<td>3</td>
<td>M.S.R.T.C.</td>
<td>60</td>
<td>11</td>
<td>84</td>
</tr>
<tr>
<td>4</td>
<td>A.P.S.R.T.C.</td>
<td>60</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>5</td>
<td>M.S.R.T.C.</td>
<td>Not fixed</td>
<td>20</td>
<td>90</td>
</tr>
</tbody>
</table>

From the above Table, it can be seen that in UPRTC and KSRTC, they have not yet fixed the optimum size. APSRTC fixed the optimum size as 60 schedules, based on its own study. KSRTC fixed it as 55, based on a study conducted by the Indian Institute of Management, Ahmedabad. KSRTC appointed a committee of its own officers known as 'Thadke Committee' to study the optimum size of a depot and a division and based on the report an optimum of 50 schedules was fixed for depots. It was increased to 70 in 1974-75 based on the recommendations of the
Administrative set-up committee. The Indian Institute of Management, Ahmedabad in its report observed that "The economies of scale for a depot are not substantial beyond a size of 60 schedules and from the standpoint of the depot manager's ability to control operations effectively, a larger size might be disadvantageous". ¹

The Phadke Committee appointed by MSRTC observed that, "The staff available for the various functions is not always trained and/or educated and the supervision by the depot manager has to be intensive on this account. Therefore, the maximum number of persons that a depot manager of average ability available in the present pay scale can control, becomes one of the important deciding factors."² Hence based on the pay scales and the managerial capabilities of the depot managers Phadke Committee recommended 50 schedules. The Administrative set-up committee of MSRTC which reviewed the size of the depot observed that, "It is true that with the existing staffing pattern 50 schedules may represent an optimum size, but with the changes recommended and in the change in the style of management suggested in this report, it should be possible for the depot manager to handle a somewhat larger size of operations. The Committee, therefore, recommends that the size of the depot should be permitted to go to 60 to 70 schedules".³

Hence we can see that uniformity exists in the concept of depot size amongst the STOs.

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However, regarding delegation of authority and the responsibility wide variance was noticed. MSRTC has two types of depots, A and B. The depot managers of 'A' grade depots alone have disciplinary authority. Neither A nor B grade depot managers have authority for recruitment or local purchase of material. The depot's performance is evaluated with reference to the revenues earned by the depot during the month, no depot-wise budgeting or budgetary control is in existence. The central workshop and other costs are transferred only upto division level. Hence no depot-wise accounts exist in the organisation. They do not consider depot as an important responsibility centre. However, after Mr. S. Shankar has taken over as Chairman, MSRTC, they are changing their reporting and control systems. MSRTC wants to convert depot as a profit centre with effective budgeting and budgetary control system percolating upto depot level.

MSRTC has four types of depots, Senior A, A, B and C, based on the number of schedules operated by the depots. Only senior A and A grade depot managers have disciplinary authority. B and C grade depot managers have no disciplinary powers. None of the depot managers have authority for recruitment. They have purchase power upto Rs.25/- per schedule, per year. No depot-wise budgeting or budgetary control system exists. The central workshop costs are transferred upto division, based on the actual consumption of assemblies and units. The transfer pricing from division to the depot is based on the km. operated by the depots. The MSRTC considers its depots as profit centres and want to change its reporting and control systems to suit that concept.

1 Mr. S. Shankar was Governor, Reserve Bank of India and after retirement has taken over as Chairman, MSRTC in 1975.
KRTC has two types of depots, A and B. The depot managers (both A and B) have no authority in recruitment, purchase of material etc. Only Depot Managers 'A' have disciplinary authority. No depot-wise budgets are prepared. The Central/Regional workshop costs are transferred up to the divisional level based on the actual consumption of assemblies. However, the divisional workshop costs and the costs transferred from the Central/Regional workshops are transferred to the depots based on the actual losses done by the depots. Though the depot managers have practically no authority, even to make minor modifications to the routes exclusively operated by them, they consider these depots as profit centres and KRTC is evaluating depot managers with reference to profits or 'margin' during the last five or six months.

In KRTC, there is no integrated depot management. For 3 or 4 depots there is an Assistant Regional Manager. At depots each function is headed by a supervisor. No depot-wise budgets exist. Even the Assistant Regional Manager is not responsible for budgeting or budgetary control. They consider that their Assistant Regional Manager is a revenue centre. The central workshop costs are transferred only up to the divisions and not below that level. The Assistant Regional Manager's office maintains accounts of only earnings.

In KRTC all the depot managers are of the same cadre. Small depots are made satellite to the nearest large depots. The depot managers have the authority to recruit drivers, conductors and on maintenance side up to mechanics. They have full purchase powers to buy material if a vehicle is off-the-road and they have full authority to operate extra services to cater to the traffic needs. They have
the authority to make vehicle and crew schedules for routes exclusively operated by them. The Central/Regional workshops costs are transferred upto the depot based on the actual consumption of the assemblies. They maintain accounts of earnings and expenditure depot-wise. The performance of a depot manager is evaluated only with reference to the profitability or the 'margin' made by the depot during the month.

From the above analysis, it can be seen that except in UPSRTC, in all the other 4 STUs integrated management exists at the depot level. The delegation of authority varies from one STU to the other considerably. The delegation is more in APSRTC in all areas compared to the other 4 STUs. The APSRTC has developed responsibility accounting system with effective transfer pricing upto depot level. Only in APSRTC budgeting and budgetary control system percolates upto the depot level. The study revealed that except in APSRTC, the depots in the other STUs cannot be considered as 'Profit centres' as defined by Anthony. The other 3 STUs (MSRTC, KSRTC and GSRTC) are trying to convert these depots as profit centres by just trying to work out the 'margin' at depots. In the absence of decentralisation for profitability, adequate delegation, budgeting and budgetary control systems, target setting strategies, proper accounting and control systems no purpose will be served by working out the 'margin' at depots.

In the absence of suitable transfer pricing systems the 'margin' worked out for a depot may not correctly reflect its profitability.

The APSRTC started the depot profit decentralisation in 1965 and during the last decade developed suitable transfer pricing, accounting and control systems at depots. Only in APSRTC the depot managers have
authority for changing the schedules. Hence only the APSRTC depot set up comes close to the Anthony's concept of 'profit centre'.

In the preceding paragraphs, it was observed that APSRTC is the only STU making adequate profits and its vehicle utilisation, fleet utilisation and performance in the other key result areas is the best amongst the 5 STUs studied. One of the main reasons for it seems to be the development of depots as profit centres and distributing the profit responsibility amongst its 65 depot managers.

All the other STUs can study the transfer pricing, responsibility accounting and control system developed by APSRTC for depot management and adapt with suitable alterations to suit their operating condition to improve their profitability.

8.6 ORGANIZATION OF DIVISIONS:

The following table illustrates the smallest and the largest size of the divisions, number of divisions and the optimum size of divisions in the 5 STUs studied.

TABLE - 8.2

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the S.T. Undertaking</th>
<th>Optimum size of Division</th>
<th>Smallest Division</th>
<th>Largest Division</th>
<th>No. of Vehicles held</th>
<th>No. of Divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.S.P.T.C.</td>
<td>Not fixed</td>
<td>100</td>
<td>450</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>K.S.R.T.C.</td>
<td>Not fixed</td>
<td>110</td>
<td>421</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>U.P.S.R.T.C.</td>
<td>Not fixed</td>
<td>149</td>
<td>302</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>O.S.R.T.C.</td>
<td>400</td>
<td>155</td>
<td>465</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>A.P.S.R.T.C.</td>
<td>Not fixed</td>
<td>116</td>
<td>390</td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>
The above Table indicates that the number of divisions vary from 11 in APRTC to 24 in MSRRTC. The optimum size of a division was not fixed in ARTC. Only in MSRRTC it was fixed as 400 schedules. However, the recommendation of the Indian Institute of Management, Ahmedabad, was for a division of 800 schedules, considering the utilisation of workshops and other factors. However, it was reported that the recommendation of the I.I.M., Ahmedabad was not implemented by the Corporation so far for various reasons.

APRTC conducted a study to find out the optimum size of a unit (a Division or a Region or an Area) which will have adequate reconditioning and workshop facilities and materials organisation and can work as a real 'profit centre' with least dependence on other organisational units for its operations. The study revealed that the optimum size of such a unit will be around 900-1200 vehicles. A committee constituted by APRTC in 1960 known as Ananta Rama Krishnas Committee has recommended the optimum size of a division as 900 vehicles, the Administrative set-up Committee appointed by MSRRTC has recommended the setting up of three full-fledged regions, but the corporation decided and introduced four regions. In UPSRTC, Mr. Jambulingam an eminent industrialist from South India who was requested by Uttar Pradesh Government in 1973 to suggest re-organisation recommended a Region for every 1,000 vehicles.

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1 "A report on the problem of determination of the optimum and viable size of the division and depot", Ahmedabad, Indian Institute of Management, p.9
2 "Suggested Re-organisation set up of APRTC" Unpublished document of APRTC, Hyderabad, 1975, p.37
3 Ibid p.9
5 Report of Mr. Jambulingam on "Re-organisation of UPSRTC"
From the above studies, it is clear that all the large STUs are very seriously contemplating re-organisation especially to have a management set up for a size around 1,000 vehicles. MSRTC has already appointed Regional Managers, set-up offices and started the regional set-up from 19th June 1976, with regional headquarters at Bombay, Pune, Aurangabad and Nagpur. They announced that these four regions will be 'profit centres' with all the necessary inputs required for efficient transport operations. Similarly, APSRTC has decided on the Regional set-up and is likely to introduce from around August 1976. It is reported that APSRTC, based on Mr.Jambulingam's recommendations, is likely to introduce the Regional set-up shortly.

This indicates that in the present larger STUs (like the STUs studied) due to small size of the divisions and increased number of divisions, the chief executive is getting bogged down with the deluge of minor problems and naturally the decisions are getting delayed. The 'extremely perishable' product (Seat-km.) characteristic of transport demands quick decisions. Hence there is need for a full fledged, fully independent set up with all the necessary inputs like workshops for reconditioning, materials organisation etc., between the depots and the head office. This unit will be a real profit centre as defined by Anthony. The present division for about 400 vehicles is considered unprofitable to provide such inputs like full-fledged reconditioning facilities, materials organisation etc. This shows that the present 'division' in the large STUs is in a state of flux and getting abolished in some of the STUs (like APSRTC) and is going to get completely re-organised in others.
It can be seen that the STUs have realised the need for 'profit centre' concept below the chief executive's level. The principal advantage of the profit centre system is that divisional/regional management is forced to be concerned with profitability. This can have two effects on divisional/regional operations.

1) The divisional management can relate revenue factors to cost factors or relate one cost factor to another. By making the divisional manager responsible for contribution, he will be motivated to maximise contribution.

2) The impact of each action (to improve cost performance, for example) is automatically increased in the performance report as a weight that reflects its relative importance to the company.

3) The division will resist uneconomic actions. In an STU there is a regular demand from the public to start certain trips/routes which are not profitable or only marginal. If the depot or a division is not a profit centre they have little or no incentive to resist accepting such requests. Although certain uneconomic actions will always be necessary in service organisations like STUs, the impact of these actions on profits should be known at the time action is taken. The fact that profit deficiencies will have to be explained will result in increased attention being given to actions that result in reducing profits.

4) Emphasis on profit performance will tend to make divisional personnel concentrate on potential areas of profit improvement. They will be in continuous search for locating new services which will be more profitable and new methods to increase the fleet utilisation and vehicle utilisation.
8.7 CONCLUSION:

The depot is a nerve centre of an State Transport Undertaking and, treated as an important responsibility centre. Nearly 70 percent of the total costs are incurred at the depot level. About three-fourths of the total employees working in State Transport Undertakings are based at the depots. All the STUs studied have fixed the optimum size of a depot around 60 schedules.

Integrated management with authority to co-ordinate different functions at depot level exists in the 4 STUs, out of the 5 STUs studied. The study revealed that only the APSRTC depot set-up comes close to the Anthony's concept of 'Profit-centre'. The concept of 'Profit Centre Decentralisation' and responsibility accounting up to depot level, with depot managers responsible for budgeting, budgetary control exists only in Andhra Pradesh State Road Transport Undertaking.

As discussed in Chapter 4, the incentive schemes based on overall performance of the depot during the year is in existence in APSRTC during the last 7 or 8 years. All the other 4 STUs are now planning to convert their depots into 'profit centres' by bringing in necessary organisational changes and changing their present accounting and reporting systems. One of the major reasons for better performance of APSRTC compared to the other 4 State Transport Undertakings was found to be the 'profit centre' decentralisation.

All the five State Transport Undertakings studied consider 'division' as a 'Profit Centre'. Most of the State Transport Undertakings consider that their present divisions holding only
about 400 vehicles are unprofitable to provide such inputs. Full-fledged reconditioning facilities, materials organisations etc. The existing size of the division is under revision in all the S.T.U.s studied. Three of the S.T.U.s have completed their plans to introduce regional set-up with a Regional Manager responsible for around 1500 vehicles.