

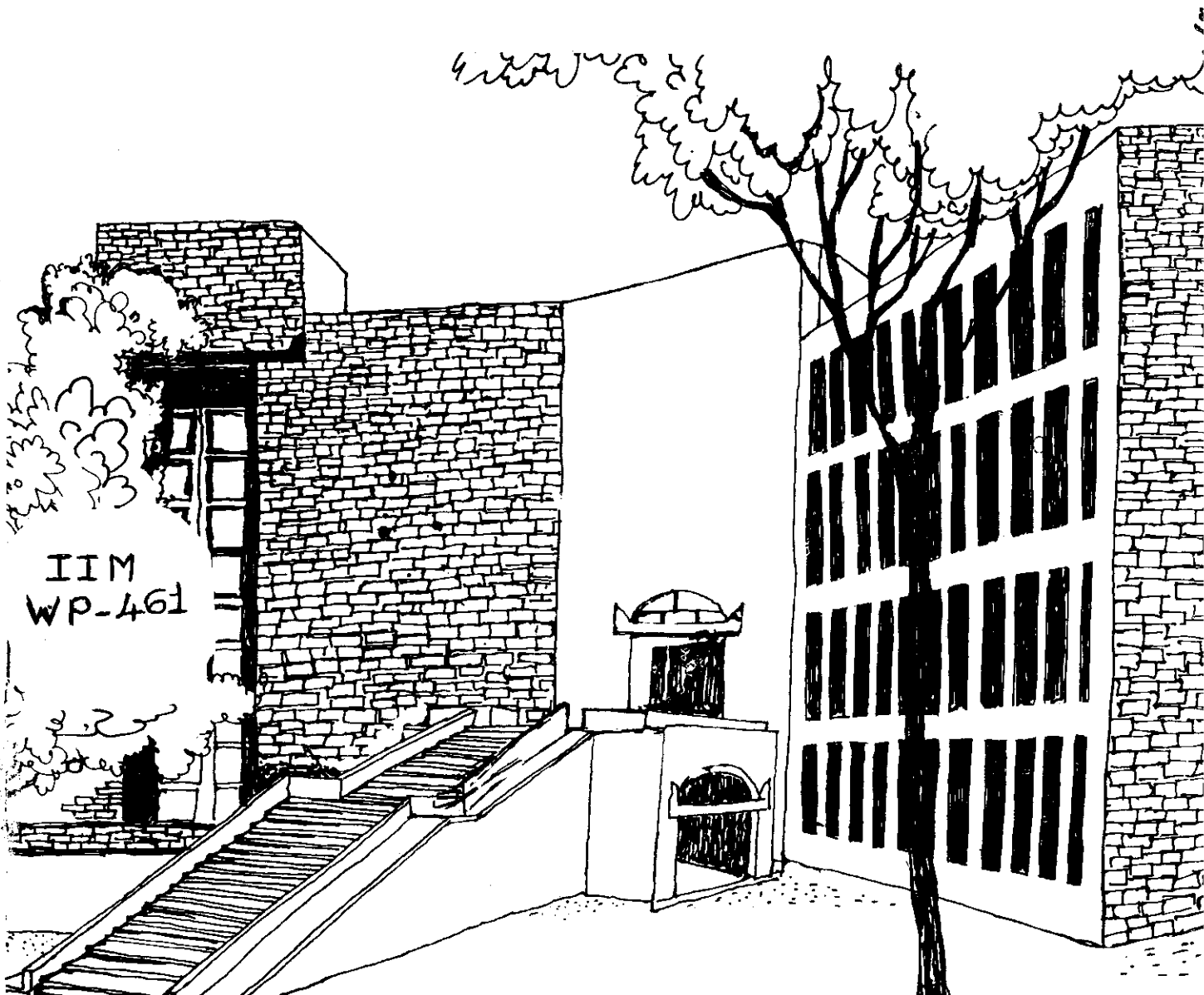
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# Working Paper

SHAPING THE AMORPHOUS: ORGANIZATIONAL  
FORM FOR A NATIONAL RAILWAY SYSTEM

By

S.R. Ganesh



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## Abstract

Organizational form is one of the key determinants of organizational performance. Choice of organizational form for public organizations in developing countries can facilitate or inhibit performance. In this paper an approach for choosing appropriate organizational forms is outlined for public organizations using three steps:

1. Mapping key stakeholders
2. Deriving criteria for choice of form from stakeholder expectations
3. Matching criteria to alternatives.

The approach is illustrated using the example of a national railway system. Some lessons for theorists and practitioners are drawn.

Shaping the Amorphous:  
Organizational Form for a National Railway System

I

Introduction

It is not often that social scientists are called upon to design or redesign large national organizations. By and large, the choice of form and the design of structure of the organizations with large public impacts in developing countries are the prerogative of administrators and politicians. Considerable administrative wisdom and political acumen feed into the choice of organizational form. Governments, the world over, have experimented with three major organizational forms or combinations thereof:

1. Department of the Government
2. An Authority or a Board
3. A Corporation.

Corporations could be statutory or joint stock companies with government control (Pozen, 1976; Friedman, 1954; Friedman and Garner, 1970). There is considerable concern with both effectiveness and efficiency of public organizations (e.g., Balog, 1971; Coombes, 1971; Holland, 1972; Khan and Arora, 1975; Kelf-Cohen, 1969; Khandwalla, 1981; Mallya, 1971;

Nigam, 1980; Nove, 1973; Thompson and Hunter, 1973; Vernon and Aharoni, 1981). It is in this context that choice of an appropriate form for a public organization assumes significance. The assumption is that while form follows function, inappropriate forms in the public arena would lead to malfunctions with serious administrative and political consequences.

Organization design literature, while quite useful, does not seem to offer much in the way of guidelines for choice of organizational form. Much of the literature takes segmented views of the problem or deals with problems of moderate complexity and scope (Nystrom and Starbuck, 1981). Thus, very large public organizations get designed with very little support from the organizational theorists both in national and international arenas. Legal and political considerations often override a balanced approach to the entire problem.

In this paper, we would like to outline the nature of design considerations for a large national railway system for a country like India. Based on this, we would like to draw some lessons for theorists and practitioners in the public arena. The opportunity arose when the Railway Reforms Committee (RRC) set up in May, 1981, made a request to the Indian Institute of Management, Ahmedabad for evaluation of

the organizational form of the Indian Railways and to recommend a suitable top management structure. The author coordinated the project.<sup>1</sup> While the report and the recommendations from the study may not be published until the Railway Reforms Committee finalizes its recommendations, it would be useful to draw upon the non-confidential aspects of the study to highlight a useful approach and the design considerations for such public systems. The approach for choice of form for such public systems is based upon:

1. Mapping of key stakeholders
2. Deriving criteria for choice of form from stakeholder expectations
3. Matching alternative forms on the criteria.

Recently, Mendelow (1983) illustrates the use of the stakeholder concept for strategic planning purposes. This can be used to make organizational choices for public systems without much alteration.

The paper is organized into the following parts:

1. Background of Indian Railways
2. Approach to the study
3. Influences on organizational design and development
4. Corporation as an alternative
5. Some lessons.

## II

Background of Indian Railways<sup>2</sup>

Starting out as private enterprise under the British Government patronage, the Indian Railways has experimented with a mixed enterprise form with governmental control over the private companies before moving into the phase of state ownership and management. The East India Railways (EIR) and the Greater Indian Peninsula (GIP) systems were first brought under government control in 1925. The integration of the princely states paved the way for nationalization of all the railway systems. The rationale behind nationalization was to develop an integrated network. Thus, freedom and abolition of princely states precipitated nationalization. They also underscored the importance of infrastructure for purposes of national integration.

The completion of nationalization of railways in 1950 has to be understood in conjunction with the Constitution of a free India<sup>3</sup> which embodies the concept of a Welfare State later clarified to imply the evolution of a socialistic pattern of society as the objective of India's social and economic policy. The Industrial Policy Resolution of 1956 while spawning many public enterprises also kept in view the importance of the concurrent development of railways. While

the organization of the railways represents a major innovation in public enterprises at the national level, it has come to be viewed along with the other major innovations like the Atomic Energy Commission, the Space Commission and the Steel Authority of India Limited. One would not be wrong in stating that the Board form of organization of the railways was the forerunner of later innovations.

The Railway Board, itself, was established in 1905 through the Indian Railway Board Act. This was a result of the disenchantment with the railways being an appendage of the Public Works Department (PWD) and, therefore, not administered along commercial lines. While removing the Board from the PWD, it was made subordinate to the Department of Commerce and Industry. This created problems of effective functioning. Within two years, a separate Railway Department was mooted. However, the Railways continued under the charge of the Member, Commerce and Industry until the 1920's when a new Department of Communication was proposed with the reconstituted Board reporting to the Member of the Viceroy's Council in charge of communications. While the new Department was not created, the Railway Board was reconstituted and a Chief Commissioner of Railways was appointed. He was also Secretary to the Government of India. In essence, the Railway Board, as constituted today, owes its origins to Acworth Committee report in 1922. A proposal to create a



Federal Railway Authority by the Wedgwood Committee was not accepted. Such an Authority was expected to obviate political interference and interference from the administrative machinery. The Kunzru Committee (1947) also recommended a statutory Railway Authority. This was the last attempt made to reverse the historical forces which were moving the railway organization into increasingly greater state control. This was also a proposal that was closest to creating an autonomous corporation along the lines of a 'holding company.' It is interesting to note that these proposals were not taken up for implementation. On the contrary, the Departmental form with a Board or its variant, the Commission form of organization, has found favour with the Government with established organizations like Posts and Telegraphs and new programmes like Space. At the highest political and bureaucratic levels as well as the senior managerial levels in the railways, there is considerable respect for this form of organization. This may be one reason that other alternatives have not been considered seriously. Further, the experiences with other alternatives have been rather mixed and no clear pointers are available readily.

Appendix 1 summarizes major features of the Indian Railway system as of 1981.

## III

Approach

In this context, we approached the study as outsiders with the perspectives of general management and organization behaviour. These perspectives were enlightened by familiarity with various organizational forms and their experiences, both nationally and internationally. We sought to become "informed outsiders" to provide a fresh, but, pragmatic approach to the issues posed to us. Therefore, an attempt has been made to map reality from various standpoints. Secondly, we have drawn upon, eclectically, various organizational concepts, people's experiences, ideas and views. Thus, both analysis and synthesis have been attempted in this study. In this part, we present our methodology, in brief; identify key stakeholders and their expectations of railways then map out various influences on organizational design and development and criteria that emerge from the different influences in the next part.

Methodology : Mapping Stakeholders

There are many factors that affect organizational performance. Organization form and structure are only one of many other sets of factors. Figure 1 outlines other factors. We are acutely aware that organizational solutions cannot cope

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Insert Figure 1 about here

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with problems of obsolete technology, scarcity of resources, inept management, among others.

We relied on three methods for our data collection.

These were:

1. Library research, especially, for choice of organizational form. This not only involved reading scholarly works, but also newspaper and popular magazine writings.
2. Analysis of relevant reports and documents pertaining to the railways.
3. In-depth, open-ended as well as semi-structured interviews and meetings with key people.

Our first task was to identify key people. We identified retired Railway personnel with a variety of experiences. We also identified key members of related Work Groups constituted by the Railway Reforms Committee. We also identified individuals and groups at the Zonal and Board levels of the system to have discussions with. We also drew upon a network of people with governmental and corporate sector experience.

The RRC supplied us with some reports and documents which gave us an insight into the history and functioning of the Railways. We also obtained documents from the Board

as well as from the Zones. We have drawn heavily on these documents for our insights.

A critical appreciation of the Indian public enterprise experiences was attempted through library research. This was also placed in the international perspective.

Through these methods an attempt was made to map out some significant stakeholders whose expectations and actions would have a bearing on the choice of organizational form. Figure 2 sketches the major stakeholders we visualized. Table 1 maps their expectations in respect of various aspects of performance that each group would emphasize.

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Insert Figure 2 and Table 1 about here

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The key stakeholders identified are:

1. Government of India as owner
2. Other departments of Government of India
3. Railway officers
4. Railway workers (both blue collar and white collar)
5. Passengers
6. Public sector organizations as suppliers and consumers
7. Private sector organizations as suppliers and consumers
8. Politicians from local to national levels.

The Government of India (GOI), over the years, has become a key stakeholder in its role as the owner. In the wake of nationalization of railways in 1950, the GOI allocated 11.23 per cent, 18.68 per cent and 11.87 per cent of the total outlay in the public sector to the railway sector during the first three plan periods. For the period 1980-85, a provisional allocation of 41.09 per cent of outlay on transport sector has been ear-marked for the railways. This, although inadequate, because of lower allocation from the Fourth Five Year Plan onward, nevertheless, compares favourably with an outlay of 46.77 per cent of the outlay on the transport sector between 1951-56 and 46.50 per cent during the period 1966-69 when there was a plan holiday. It is no wonder, then, that the GOI would expect a high order of public accountability, an intimate integration with national development plans, effective movement of goods and people and a voice in the formulation of policies. Covering the length and breadth of the country, social justice, maintenance of a lifeline for national security operations and resource conservation are also important expectations of the owners. The Public Accounts Committee (PAC), the Estimates Committee and the Railway Convention Committee provide the necessary control mechanisms to the Government. The Consultative Committee of the Parliament for the Ministry of Railways also provides a mechanism for the

Members of Parliament to offer advice and suggestions.

Because of the nature of its ownership as well as its link with national economic development, besides the Defence Ministry, all Economic Ministries look up to the Railways for a sympathetic and fair hearing of their problems and needs; support at crucial times, e.g., for movement of coal, fertilizers, foodgrains, among others, and preferential treatment because of the governmental stake. The Planning Commission, the Finance Ministry and the Home Ministry expect to exercise control over the resources to be made available to the Railways and the conditions under which these can be released. In respect of Personnel, the Home Ministry likes to maintain parity with other government departments.

Any large organization like the Railways needs a very strong managerial staff for its effective functioning. Although the officers constitute about 0.7 per cent of the total staff strength of about 1.8 million people, the responsibilities they shoulder are very heavy. Hence, they expect rewards commensurate with their responsibilities, parity with the Indian Administrative Service (IAS) and welfare measures to enable them function free of mundane cares under difficult geographic and social settings (Laxmi Narain, 1973). As a large organization, the Railways also require people from various disciplines. The officers drawn from

various disciplines, hence, expect appropriate promotional avenues in both disciplinary cadres and in the general management line. Being a specialized techno-commercial organization, the officers look upon with suspicion any civil service entry into the railways. They also expect operational autonomy to achieve results. This is all the more necessary because of the decentralized nature of railway operations which calls for considerable local decision-making.

The railway workforce of around 1.8 million people constitutes the backbone of its far flung operations. The Railways are the largest single employer in the country. Because of the techno-commercial nature of operations, in comparison with similar public and private sector organizations, the workers expect to be classified as industrial workers. Welfare, higher pay and parity with public sector workers are also their legitimate expectations.

Passengers, public sector organizations and private sector organizations as major users of the Railway services look forward to safety, comfort, amenities and availability of seats; movement of goods and preferential treatment; and movement of goods, cost-effective operations and consumer orientation, respectively. The public sector and the private sector organizations also have roles as suppliers of goods and services to the railways.

Finally, the politicians at different levels look upon railways as an instrument to further their constituency interests, e.g., opening of new lines, halts at specific stations, more frequent services, among others. They also tend to exert pressure on the railway people for various favours, e.g., seats, recruitment, purchases, transfers, promotions and so on. Essentially, these are manifestations of increasing trends in the political scene in the country in the last decade. On the positive side, the politicians expect public accountability as well as a say in matters of railway working. These are legitimate and important expectations.

It would be apparent that the expectations diverge rather widely. We recognized these divergences and did not attempt to resolve these in one direction or the other. Choice of a particular form is dictated by macro socio-economic and political considerations because of the nature and scope of railway operations. We recognize that the primary way to manage the divergent expectations is through processes of dialogue and effective mechanisms of responsive action in respect of the various stakeholders. Neither form nor top management structure, per se, provide a solution for managing divergent stakeholder expectations.

Having mapped the stakeholders and their expectations,



we turn to examine the various influences on the design and development of the Indian Railway system and the multiple criteria for organizational choice thrown up by these influences.

## IV

Influences on Organizational Design and Development

Large public organizations like the railways operating in a network of very powerful stakeholders, pose special problems of design and development. In order to appreciate these, we have attempted to isolate critical influences on design and development (Zey-Ferrel, 1979). The following emerge as the most critical influences:

1. Mission and nature of operations
2. Ownership
3. History
4. Size and scope of operations
5. Future plans and outlook
6. Inter-organizational linkages within government
7. Personnel
8. Transportation industry
9. Political environment.

While Table 2 and the earlier discussion of the expectations of various key stakeholders provide pointers for the design and development of the railway organization, a few words would be in order as explanation.

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Insert Table 2 about here

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In our understanding, the primary mission of the railways to provide economic transportation for people and goods is intricately woven into the tasks of integration of a Free India.<sup>4</sup> This has social and political underpinnings as well as overtones of national security. For these reasons, national integrity, decentralization and concomitant differentiation-integration at different levels and operational efficiency emerge as important criteria for design. Again, by the nature of its mission, as well as its role in the transportation sector, governmental ownership is a critical influence. Regulation of such an enterprise that has far-reaching socio-economic, political and defence impact, necessitates public accountability, considerations of social justice, regulated pricing and integrated functioning as important criteria for design (Hunter, 1968; NEDC, 1976; U.N.O., 1974).

One of the major influences on the design would be the age of the organization itself (Child and Kieser, 1981). From a small beginning in 1853, to a network of as many as 175 individual railway systems in 1920, to a totally nationalized system in 1950 is a far cry in itself. Over the years, the organization has built up important traditions which help it perform under far flung and adverse local conditions efficiently. Therefore, operational autonomy and distinctive culture are two vital design criteria for an effective

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railway organization at the national level (Peters and Waterman, 1982). These become all the more vital when seen in conjunction with the size and scope of operations. The magnitude of assets, working capital, investments and manpower are nationally significant. Funds availability, common policies and parity with government service emerge as important design criteria on these counts. The need for various disciplines and tasks which go into the far flung operations of the railway system in the country, call for differentiation-integration and decentralization as two design criteria which have to be borne in mind also from the point of historical growth of the organization.

In respect of its future, the Sixth Five Year Plan of the Railways has been designed essentially as a "Rehabilitation Plan". This is a result of inadequate outlays for replacements and renewals in the previous years. Therefore, there would be only a limited net addition to the rolling stock fleet and marginal changes in the transport capacity, leaving a possible shortfall of 30-40 million tonnes in respect of handling freight traffic in the terminal year of the Sixth Plan. Modernization, rehabilitation as well as resource optimization through improved maintenance, among others, emerge as important design criteria arising out of future plans.

Inter-organizational linkages are critical at the Central Government level as well as at the State Government levels. Coordination and control are essential design criteria at the operational as well as at the policy levels arising from such linkages.

By virtue of its age, size and scope of operations, personnel emerge as a major influence. Given the history, economic conditions, cost of living, emergence of numerous central and state level public enterprises, appropriate reward system and operational autonomy at local levels, stand out as important design criteria from their standpoint. Another important design criterion is communication channels in the organization at different levels to sort out issues at appropriate levels quickly. Such communication channels are also vital for a distinctive culture.

In so far as the transportation industry is concerned, the recent National Transport Policy Committee (NTPC) has estimated that the share of railways in meeting the demands has declined both for passenger and freight traffic. Whereas the rail-to-road ratios were 75:25 and 90:10 in case of passenger and freight traffic, respectively, in 1950, these have come down to 40:60 and 65:35, at present. It is unlikely that these adverse ratios would be reversed significantly in the coming decade. The "Rehabilitation Plan" might arrest

and marginally improve on these, at best. Therefore, stable operations and customer service are important design criteria arising from the influence of the transportation industry.

Political processes are important influences on the design. In discussing politicians as stakeholders, some major points were highlighted. Suffice to say, then, that public accountability and control emerge as legitimate design criteria. The latter may, however, result in attempts to erode operational autonomy through interference in day-to-day matters, personnel practices and pressures for favoured treatment. On the labour front, the political processes have eroded the negotiating machinery through encouraging multiple local unions. These factors have to be reckoned with and not wished away (Special Correspondent, 1974).

In Table 2, we have also outlined the pressures for preferred organizational forms and top management structures against each influence. It would be worth noting that six of the nine influences point to the Departmental organization as the preferred form with a top management structure that would have dual roles, viz., the ministerial policy making role and the apex operational authority role. The mission points to a Federal Authority as the preferred form with a policy oriented top management structure. The influences of personnel and the transportation industry

are in the direction of a Corporation or a set of Corporations with a policy oriented top management structure and/or a multi-level top management structure as in holding companies.

With this backdrop, we take up the issue of the Corporation as an alternative in some detail in the next part.

Corporation as an alternative

We have observed earlier that the Corporation form is most widely advocated by those who favour market mechanisms both in respect of outputs as well as service conditions. There is also an implicit assumption that market processes ensure efficiency. However, from the experiences of large multinationals it is not at all clear that market processes also ensure achievement of objectives in areas like welfare, social justice and public accountability. Public sector corporations around the world also appear to strike a balance between economic and social objectives over decades of swings between the two (Murthy, 1980).

It is argued against the present system that it is insensitive to the consumers. It is also said that 'high handedness and steam rolling' in dealings with consumers takes place. It is expected that a corporate form would be more amenable to customer orientation (National Consumer Council, 1976).

Another line of argument for a Corporation is that it will provide more proportionate compensation to its personnel in line with their responsibilities. It is expected that a holding company with multiple divisions or corporations



would improve operational efficiency as well as provide suitable incentives for its employees based on their performance. The argument goes that more efficient parts of the system now subsidize the less efficient parts, thereby, leading to demoralization on the one side and complacency on the other side.<sup>5</sup> Thus, a Corporation form is expected to exert greater pressure for performance and provide adequate rewards for such performance.

A third line of argument is in respect of operational autonomy and flexibility. It is expected that the Corporation form would provide this. A corollary of this is that the Board form precludes this. Tied to this is the dependence on the Finance Ministry and the Planning Commission even in matters like renewal, rehabilitation and improvements. There is a feeling of loss of control over the use of internally generated resources. These prevent the railways from functioning effectively.

To sum up, then, the main arguments for the Corporation form rest on the three expectations of -

1. greater consumer orientation;
2. greater pressure and accountability for efficient performance along commercial lines; and
3. greater autonomy in respect of use of funds and greater flexibility of operations.

Evaluation of Corporation as a viable alternative has necessarily to answer these arguments beside satisfying various design criteria outlined earlier. We attempt this in the next section.

#### Matching criteria to alternatives

Before turning our attention to a rigorous evaluation of the Corporation as a viable alternative to the Departmental form of organization with a Board, some important characteristics of the present form have to be borne in mind.

These are:

1. The intimate formal link of the Board with the Department (Ministry) which eliminates one tier as in the case of public enterprises beside eliminating references to the Bureau of Public Enterprises (BPE), Public Investment Board (PIB), and Public Enterprises Selection Board (PESB). The nature of public accountability of the Railways gives rise to numerous references being made to the Ministry. These are much better handled with such a close link. Even if a Corporation were created, the references would still continue because of the nature of railway operations and its impact on the nation. These references have very little to do with the Departmental form of organization.

2. Manning of the key Departmental positions through people who have experience of Railway operations unlike the Departments which deal with public enterprises. Further, unlike many public enterprises key top management positions do not remain unfilled.
3. Greater accountability to people through Parliament with voting on a separate budget, among others.
4. Better inter-departmental coordination within the government at both Central and State levels.
5. Exemption of income-tax on profits and sales tax on inter-railway transfers. This has a bearing on pricing in the sense that it possible to provide services at low prices.
6. Easy credit from the government at much lower rates than the market. Leverage to borrow internationally is also better.

Another important aspect to be borne in mind is the uniqueness of the Indian Railway system in respect of mission, context, size and scope of operations. There are virtually no parallels when all these are taken into consideration together. There is no public enterprise which affects the common man in such a pervasive way across the length and

breadth of the nation. There is also no public enterprise which has to function as a single integrated network day in and day out. There is also no public enterprise which is so intimately linked to the industrial economy of the country as the railways, be it industry in the public sector or in the private sector. While several committees have emphasized commercial orientation and autonomy for better performance, today, public accountability, national integrity and social justice are overriding criteria. Others have to be examined in the light of fulfilling these criteria.

Given the above, we have grouped the design criteria isolated earlier under the three major expectations of consumer orientation, performance orientation and autonomous functioning in respect of the Corporation form for the Railways. Table 3, 4 and 5 respectively summarize an evaluation succinctly on the three major expectations. Some design criteria are listed more than once, but, under different expectations signifying that they are also perceived as having an influence on meeting the concerned expectation. The main arguments are elaborated in the succeeding paragraphs.

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Insert Tables 3, 4 and 5 about here

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Consumer orientation is the expectation that comes foremost to mind when considering the Corporation form. This is

because the Corporation as we know today is an outcome of the industrial revolution embedded in a capitalist, free-market context. The experience of public sector corporations in India is the one most relevant to our discussion. The autonomy enjoyed by various public enterprises in fixation of prices varies. The selling price and distribution of products like fertilizers, drugs, coal and petroleum products are controlled or regulated by the Government. Fares and freight charges in respect of the nationalized airlines like Indian Airlines on the local sector are subject to Government approval. Pricing in organizations like Air-India on the international sector and the Shipping Corporation of India are subject to international market conditions. In the case of Railways being converted into a Corporation, the road transport industry would affect the pricing policy. With the incidence of taxes, the chances that the prices will remain low are minimal. Only with a Departmental form can the prices be maintained at reasonable levels. The Indian Railways play the dual role of a public utility service and a commercial undertaking simultaneously. The policy of price restraint both in respect of passenger fares and freight charges would not be possible under the Corporation form with its emphasis on profitability. While pricing may be one of the six design criteria, its pre-eminence has to be kept in view in the Indian economy.

The corporation form comes out ahead in respect of other criteria, viz., customer service, decentralization, operational autonomy, stable operations and reward system. However, except for customer service and reward system, the Departmental form does provide satisfactory results. Even in respect of customer service, organizational processes have a major role to play and considerable improvements can be conceived of within the existing framework to bring in greater consumer orientation, e.g., increasing the importance given to the Commercial Department and providing for avenues of promotion to the people from this department to the highest echelons in the railway organization. In any case, an organization as public as the Railways cannot afford to neglect consumers for long irrespective of its form.

In respect of performance orientation, except for the reward system, the Corporate form is not significantly better off than the Departmental Form. Given that the Railways are the largest single employer in the country, the pressures for maintaining parity with conditions prevailing in the government service are overwhelming because of the magnitude of the stake of the owners. Pay is a major component of the reward system under Indian conditions. Hikes in the wage bill of the Railways (the wage bill of the regular employees alone was Rs.13170 million in 1980-81) are likely to affect the economy adversely through their effects on pricing,

among others, as well as the impact on the wage bill of the GOI itself. The trend in the wages and cost of living over the years has not been unfavourable to the railwaymen. When taken together with various benefits and amenities, the railwaymen cannot be said to be badly off under the existing constraints. This is not to argue that improvements are not called for.

In so far as other aspects of reward system are concerned as well as the other design criteria, viz., decentralization, differentiation-integration, operational efficiency, communication channels, modernization, rehabilitation and resource optimization, organizational processes are far more critical than mere organizational form. Thus, on performance orientation, while the Corporation emerges as a better choice it cannot be convincingly argued that it is a 'significantly' better choice under our conditions. Our survey of public enterprises also supports the position that organizational form does not provide any guarantee of either consumer orientation or performance orientation. Much less so for an organization as public as the Railways.

The touchstone is really the expectation of autonomous functioning. The design criteria which are pre-eminent in this regard are national integrity, public accountability, funds availability, coordination within government and social

justice. The Departmental form scores on these criteria.

Whether a Corporation or a Departmental organization, governmental and political control are likely to remain high under Indian economic and political conditions. The other criteria, viz., integration, operational autonomy, distinctive culture and common policies are best dealt with through organizational processes of decision-making, recruitment and socialization and systems development.

The Railways enjoy considerable autonomy. With a separate budget and a Financial Commissioner, sanction of individual schemes within the agreed overall plan outlay is within the purview of the Railway Board. In respect of appointments, only those posts above Rs. 3000 p.m. pay are cleared by the Appointments Committee of the Cabinet, based on the recommendations of the Board. Even in respect of stores purchase, the Railways do not come under the Directorate of General Supplies and Disposal (DGS & D) system mostly and enjoy considerable freedom. Again, in respect of pay fixation, legally, the Railways are free to create their own system. However, matters of the railway staff, over the years, have been brought within the purview of the Pay Commission and the Joint Consultative Machinery. This has eroded some of the autonomy in respect of personnel. Still the railways enjoy autonomy in respect of recruitment by not coming under the purview of the Union Public Service Commission (UPSC).



Thus, in so far as autonomy in respect of men, materials and money is concerned the Departmental form with a Board emerges as a superior alternative to the Corporation which is subject to controls from the P.E.S.B., the D.G.S. & D., the P.I.B. and the B.P.E. in the Indian context. Autonomy in respect of public enterprises has, at best, been a myth.

Tables 3 to 5 summarize the arguments keeping in mind the mission of the railways, its history and the emerging socio-economic and political conditions. Thus, one can start with mapping stakeholders, making explicit their expectations to derive criteria that influence organizational design and development and match alternative forms on these criteria in order to make an appropriate choice.

## VI

Some Lessons

What lessons can be drawn from the preceding pages outlining a pragmatic approach for choice of organizational form for public systems? Firstly, we have to recognize that all organizational design is to make organizations effective. Organizational effectiveness defined as the ratio of outputs produced by the organization to the societal outputs desired from the organization is the central issue for public organizations (Hofer and Schendel, 1978). The approach outlined in this paper recognizes this. Secondly, designing necessitates a general management perspective intimately linked to the strategic plans of the organization. By and large, organizational theorists have not taken explicit cognizance of emergent futures and history in designing although the present trend is in this direction (Nystrom and Starbuck, 1981). Strategic planning for public organizations is fraught with greater uncertainties compared to private sector organizations, especially, in developing countries. India, however, may be more fortunate in this as evidenced by its efforts in atomic energy, space, satellite communication, oil exploration and, more recently, ocean development. The dictates of a general management approach and the strategic planning perspective combined with lack of guidelines

from organizational theory for macro-level issues such as choice of form, have left administrators and politicians to fend for themselves as best as they can.

The strong message for organizational theorists is that new breakthroughs in macro-organizational theory are long overdue now. Such breakthroughs have to draw eclectically from the latest work on strategy, economic theory as well as successful management practices in public systems (Ganesh and Rangarajan, forthcoming; Paul, 1982). A new breed of organizational theorists with a grounding in multiple disciplines and with exposure to diverse organizational settings at the top most levels is the need for the day. This calls for a relook at some of our curricula in organizational behaviour in the management schools as well as in public administration courses. More so, it calls for incorporating such theories into curricula for probationers of the Indian Administrative Service (IAS). For a long time to come, people from the IAS cadre and similar cadres in developing countries will continue to influence choice of organizational forms as well as determine organizational designs for large public organizations. Educating them is likely to yield rich dividends for developing countries.

Yet another message for organizational theorists is that they should collaborate more closely with policy makers.

Organizational design as a parameter setting exercise is done best in collaboration with politicians and administrators for public systems. The time is ripe for scholars to take on macro-level issues head-on rather than either skirt them all together or hope that many small cuts at the problem will ultimately lead to a better understanding of the whole. The former is suicidal and the latter is, at best, a live replay of the parable of six blind men and the elephant. The imagery is rather apt because many public organizations are elephants, generally of the white hue. Forms affect functions if the history of the extinct animals is any guide. This is no less true for public organizations. Processual interventions of the organizational development kind which seek to change the functioning of public bureaucracies seem to come to grief with very predictable monotony (Ganesh, Murari and Sethi, 1983). If forms prevent functioning effectively, organizational designers in the public arena have to make more systematic attempts at understanding the nature of these relationships. They will also have to build up sufficient evidence for politicians and administrators to sit up and take notice of them. Today, this is far from the case. In building theories and useful approaches lies the path for organizational effectiveness in the public arena. Otherwise, the issues remain unaddressed, the organizational

forms remain amorphous while their effects remain stifling. This paper is one small step to urge theorists and practitioners to join hands in the vital area of improving the performance of public systems.

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Notes

1. Prof. R.S. Ganapathy was the second member of the team which undertook the study.
2. The following documents are significant from the point of understanding the development of the Railway organization:
  1. Indian Railways Act (1890)
  2. Robertson Report (1901)
  3. Indian Railway Board Act (1905)
  4. Mackey Committee Report (1907)
  5. Acworth Committee Report (1922)
  6. Wedgwood Committee Report (1926)
  7. Indian Railway Enquiry Committee Report (1947)
  8. Government of India, Administrative Reforms Commission (ARC) Report of Study Team on Railways (1968).
3. India achieved independence in 1947 and became a Republic in 1950.
4. Except for four brief periods in its entire history, India has never been under one government.
5. This is due to regional variations in economic and cultural development as well as widely different importance attached to work.

About the Author

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References

- Balog, Nikola, (1966)  
Administrative Management of Public Enterprises, Brussels:  
 International Institute of Administrative Sciences.
- Child, John and Kieser, Alfred (1981)  
 Development of Organizations over time, in Nystrom and  
 Starbuck (Eds.), (1981), Volume 1, op. cit., 28-64.
- Coombes, David (1971)  
State Enterprise : Business or Politics? London: George  
 Allen & Unwin.
- Friedman, W (ed.) (1954)  
The Public Corporation, Toronto: Carswell.
- Friedman, WG and Garner, GF (1970)  
Government Enterprise : A Comparative Study, New York:  
 The Columbia University Press.
- Ganesh, SR and Rangarajan, T (forthcoming)  
 Organization Behaviour Research in India : A critique  
 of the last decade. Organization Studies.
- Ganesh, SR; Murari, P and Sethi, Neera (1983)  
Experiences of MbO implementation in a State Government:  
1974-1982. Ahmedabad: Indian Institute of Management,  
 Public Systems Group Monograph No. 50.
- Hofer, CW and Schendel, DE (1978)  
Strategy Formulation : Analytical Concepts, St. Paul:  
 West Publishing.
- Holland, Stuart (ed.) (1972)  
The State as an Entrepreneur, London: Weidenfeld and  
 Nicholson.
- Hunter, Holland (1968)  
Soviet Transport Experience : Its Lessons for Other  
Countries. Washington, D.C.: The Brookings Institution.
- Kelf - Cohen (1969)  
Twenty Years of Nationalization : The British Experience,  
 London: Macmillan.
- Khan, Ziauddin and Arora, Ramesh K (1975)  
Public Enterprises in India - A Study of State Govern-  
ment Undertakings, New Delhi: Associated Publishing  
 House.



- Khandwalla, Pradip, N (1981)  
The Performance Determinants of Public Enterprises : Case Studies of Four Equipment Manufacturing Indian Public Enterprises. Ahmedabad: Indian Institute of Management, (mimeographed).
- Laxmi, Narain (1973)  
Managerial Compensation and Motivation in Public Enterprises, New Delhi: Oxford & IBH Publishing Co.
- Mallaya, NN (1971)  
Public Enterprises in India : Their Control and Accountability. New Delhi: National Publishing House.
- Mendelow, Aubrey, L (1983)  
Setting Corporate Goals and Measuring Organizational Effectiveness - A Practical Approach, Long Range Planning, 16 (1), 70-76.
- Murthy, KRS (1980)  
Strategic Management of Public Enterprises : A Framework for Analysis, Anand: Institute of Rural Management, mimeograph.
- National Consumer Council (1976)  
Consumers and the Nationalized Industries, London: Her Majesty's Stationery Office.
- N.E.D.C. (1976)  
A Study of the UK Nationalized Industries : Their role in the economy and control in the Future - A report to the Government from National Economic Development Office, London: Her Majesty's Stationery Office.
- Nigam, RS (ed.) (1980)  
Issues in Public Enterprises, Delhi: Pragti Publications.
- Nove, Alec (1973)  
Efficiency Criteria for Nationalized Industries, London: George Allen and Unwin Ltd.
- Nystrom, PC and Starbuck, WH (eds.) (1981)  
Handbook of Organization Design, Volumes 1 and 2, New York: Oxford University Press.
- Peters, TJ and Waterman, RH, Jr. (1982)  
In Search of Excellence, New York: Harper and Row.
- Pozen, Robert, C (1976)  
Legal Choices for State Enterprises in the Third World. New York: New York University Press.

- Paul, S (1982)  
Managing Development Programs : The Lessons of Success,  
Boulder, Colorado: Westview Press.
- Special Correspondent (1974)  
"Railway Strike : The Midnight Knock", Economic and  
Political Weekly, 9 (21), p. 817.
- Thompson, AWJ and Hunter, LC (1973)  
The Nationalized Transport Industries, London: Heinemann  
Educational Books.
- U.N.O. (1974)  
Organization, Management and Supervision of Public  
Enterprises, In Developing Countries, New York: United  
Nations.
- Vernon, Raymond and Abareni, Y (ed.) (1981)  
State-Owned Enterprise in the Western Economies, New York:  
St. Martin's Press.
- Zey - Ferrell, Mary (ed.) (1979)  
Readings on Dimensions of Organizations : Environment,  
Context, Structure, Process and Performance, Santa  
Monica, California: Goodyear Publishing Company.

## APPENDIX

Major Features of the Indian Railway System as of March 31, 1981

1. Number of Zones	:	<u>9</u>	
2. Total route kilometrage	:	<u>61,240</u>	
Broad Gauge	:		31,827
Metre Gauge	:		25,167
Narrow Gauge (0.762)	:		3,855
(0.610)	:		391
3. Total running track Kms.	:	<u>75,860</u>	
Broad Gauge	:		45,167
Metre Gauge (	:		26,447
Narrow Gauge (0.762)	:		3,855
(0.610)	:		391
4. Total assets (Rupees)	:	74,584 million	
5. Total staff strength	:	1.765 million	
6. Number of Passengers carried in 1980-81	:	3,612 million	
7. Freight traffic in 1980-81 in tonnes	:	220 million	
8. Average number of trains run/ day	:	11,000	
9. Number of stations connected	:	7035	
10. Gross traffic receipts (Rupees)	:	26,240.2 million	
11. Working Expenses (Rupees)	:	25,364.6 million	
12. Net revenue (Net traffic receipts plus miscellaneous transactions, in Rupees)	:	<u>1,274.9 million</u>	

Source:- Indian Railways Year Book, 1980-81, New Delhi:  
Ministry of Railways.

FIGURE 1

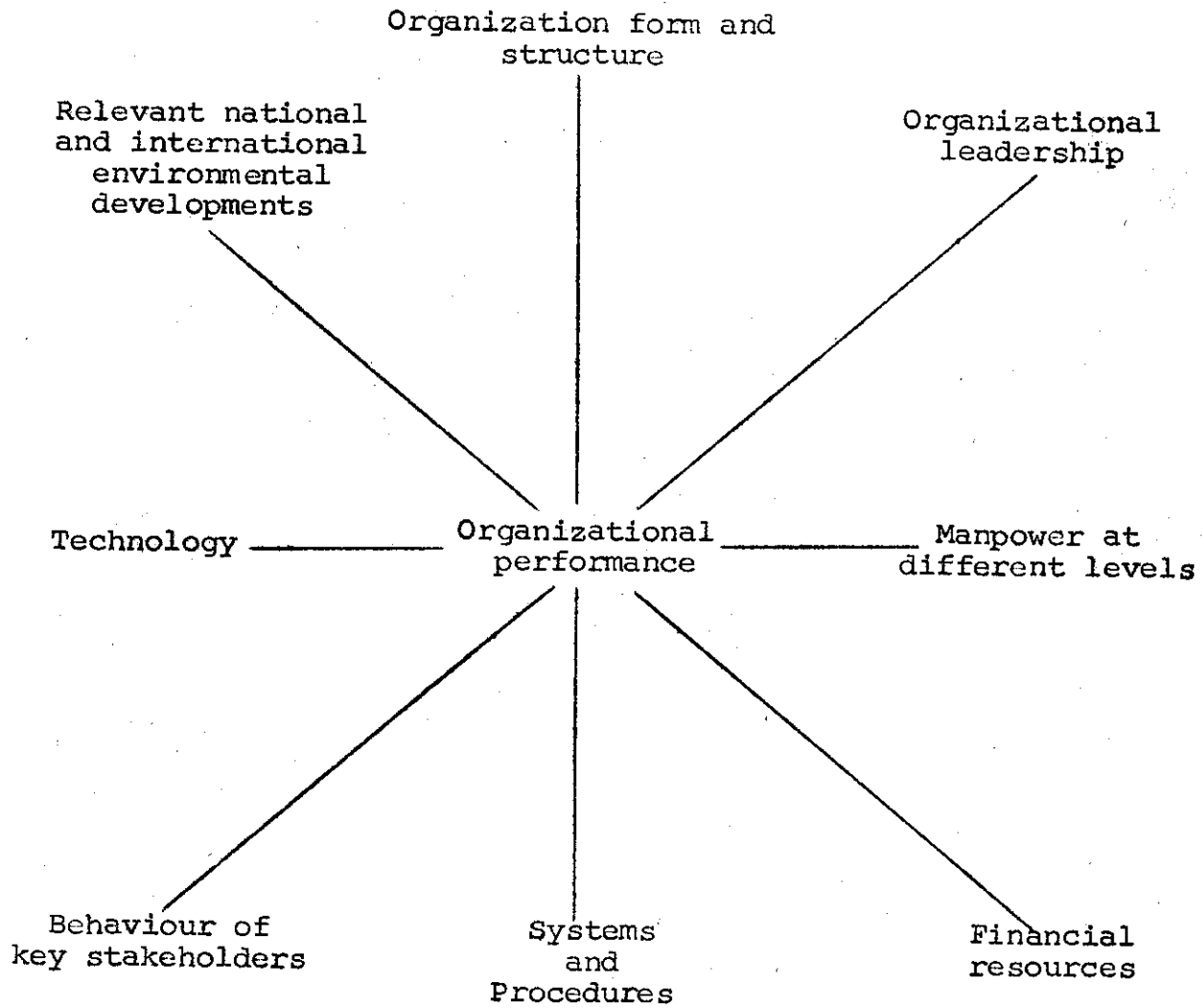
Influences on Organizational Performance

FIGURE . 2

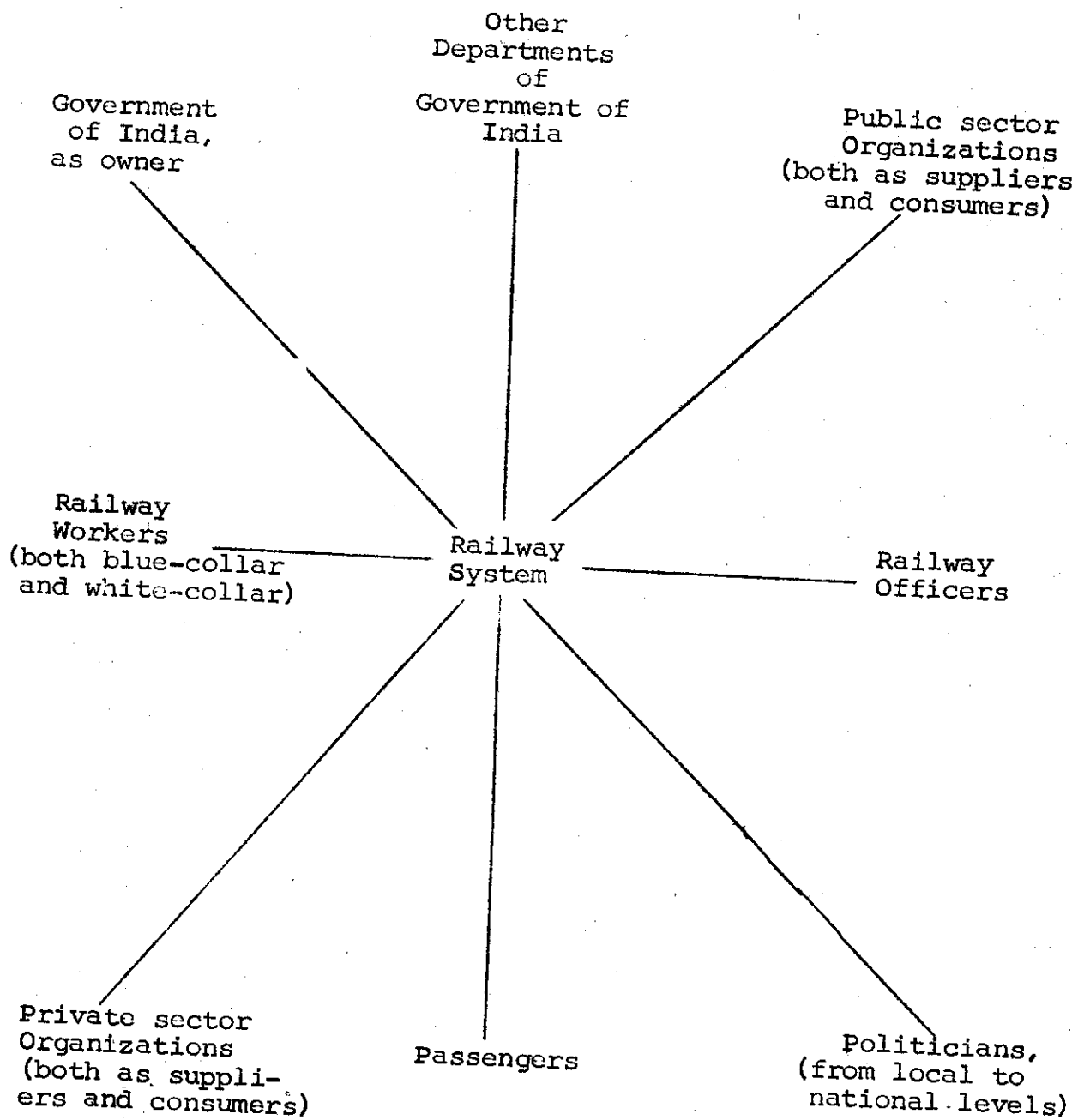
Key Stakeholders of Railways

TABLE 1

Expectations of Key Stakeholders of the Railway System

<u>Stakeholder</u>	<u>Expectations</u>
1. Government of India as owner	Public accountability, Social Justice; Link with national development plans; Resource Conservation; Maintaining lifeline for national security operations; Effective movement of good and people; Control over policy.
2. Other Departments of Government of India	Fair hearing; Support; Coordination; Preferential treatment; Control over resource allocation and priorities; Parity with secretarial service.
3. Railway Officers	Rewards commensurate with responsibilities; Promotional avenues; Parity with I.A.S.; Protection from Civil service entry into Railways; Welfare; Autonomy.
4. Railway Workers (both blue collar and white collar)	Classification as Industrial Workers; Welfare; Higher pay; Parity with Public Sector employees.
5. Passengers	Safety; Comfort; Amenities; Availability of seats.
6. Public Sector organizations as suppliers and consumers	Movement of goods; Preferential treatment.
7. Private Sector organizations as suppliers and consumers	Movement of goods; Cost-effective operations; Consumer orientation.
8. Politicians from local to national levels	Favours; Protection of constituency interests; Public accountability; Control.

TABLE 2

Critical Influences on Organizational Design

Critical Influence	Criteria emphasized	Preferred form	Top Management Structure
1. Mission	National Integrity Differentiation-Integration Decentralization Operational efficiency	Federal Authority	Policy oriented
2. Ownership	Public accountability Social Justice Integration Pricing	Departmental Organization	Dual role - Ministerial as well as apex operational authority
3. History	Operational Autonomy Distinctive Culture	Departmental Organization	Dual role - Ministerial and apex policy making body
4. Size and Scope of operations	Differentiation-Integration Decentralization Funds availability Common policies Parity with Government Service	Departmental Organization	Multi-level

Table 2 (Contd...)

5. Future Plans and Outlook	Modernization Rehabilitation Resource optimization	Departmental Organization	Dual role - Ministerial as well as apex operational authority
6. Inter-organizational linkage within government	Coordination Control	Departmental Organization	Dual role - Ministerial as well as apex operational authority
7. Personnel	Communication Channels Appropriate reward system Operational autonomy at local levels	Corporation(s)	Policy oriented (or) Multi-level
8. Transportation Industry	Stable operations Customer service	Corporation(s)	Multi-level
9. Political environment	Public accountability Control	Departmental Organization	Dual role - Ministerial as well as apex operational authority



TABLE 3

Corporation vs. Departmental form with a Board:  
An Evaluation vis-a-vis Consumer Orientation\*

Expectation	Design Criterion	Probability that form will satisfy design criterion in	
		a Corporation	a Departmental form
Consumer Orientation	Pricing	Low	High
	Customer service	Medium to high	Medium to low
	Decentralization	Medium to high	Medium
	Operational autonomy	High	Medium
	Stable operations	High	Medium
	Reward system	High	Low

\* Based on all the data collected. Judgements are overall in nature incorporating various elements of the design criteria and their implications for meeting the expectations.

Note:- The box indicates the pre-eminence of a criterion over others in the Indian context.

TABLE 4

Corporation vs. Departmental form with a Board :  
An Evaluation vis-a-vis Performance Orientation\*

Expectation	Design Criterion	Probability that form will satisfy design criterion in	
		a Corporation	a Departmental form
Performance Orientation	Decentralization	Medium to high	Medium
	Differentiation-integration	High	High
	Operational efficiency	High	Medium
	Reward system	High	Low
	Communication channels	Medium	Medium
	Modernization	Medium	Medium
	Rehabilitation	Medium	Medium
	Resource optimization	High	Medium

\* Based on all the data collected. Judgements are overall in nature incorporating various elements of the design criteria and their implications for meeting the expectations.

TABLE 5

Corporation vs. Departmental form with a Board:  
An Evaluation vis-a-vis Autonomy\*

Expectation	Design Criterion	Probability that form will satisfy design criterion in	
		a Corporation	a Departmental form
Autonomy	National integrity	Low	High
	Public accountability	Low	High
	Integration	Medium	High
	Operational autonomy	High	Medium
	Distinctive culture	Medium	High
	Funds availability	Low	High
	Common policies	Medium	High
	Coordination within government	Low	High
	Social Justice	Medium to low	High
	Reward system	Medium to high	Low
	Governmental control	High	High
	Political control	High	High

\* Based on all the data collected. Judgements are overall in nature incorporating various elements of the design criteria and their implications for meeting the expectations.

Note:- The box indicates pre-eminence of a criterion over others in the Indian context.