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發 表 論 文

## 都市鐵道事業 運營主體組織設計模型

# Designing an Organization System of Mass Transit Railway Management

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# Designing an Organization System of Mass Transit Railway Management

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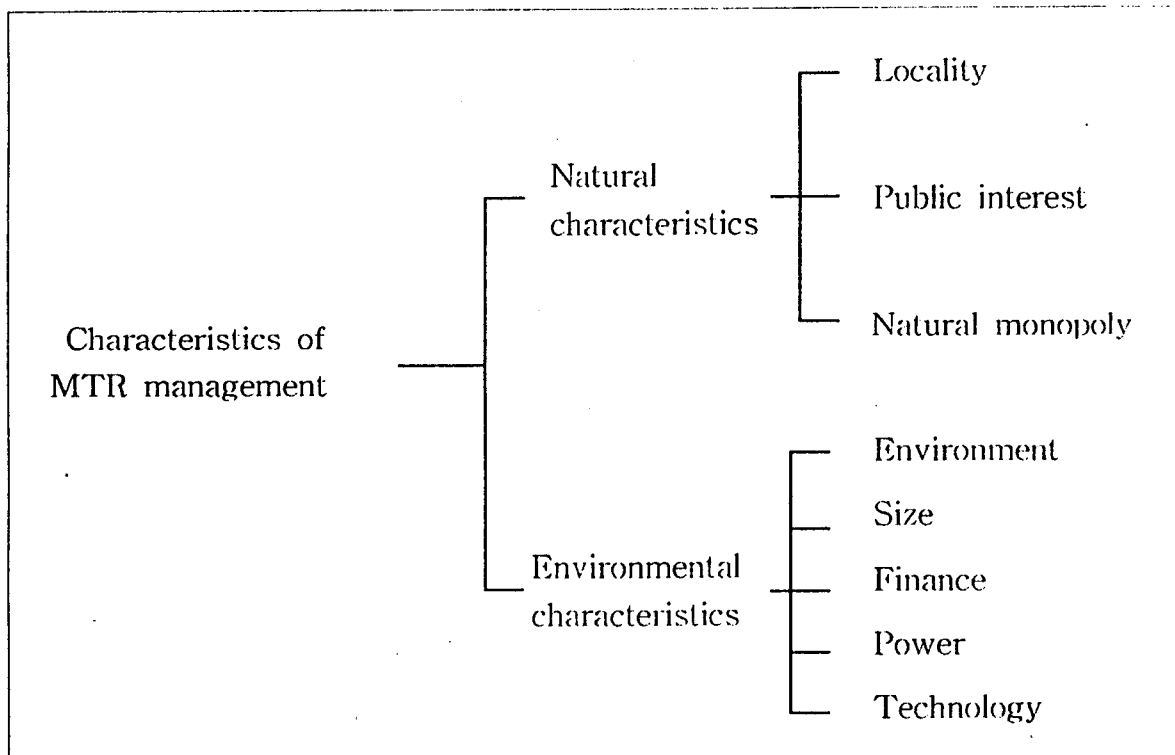
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## *I. Characteristics of MTR Management*

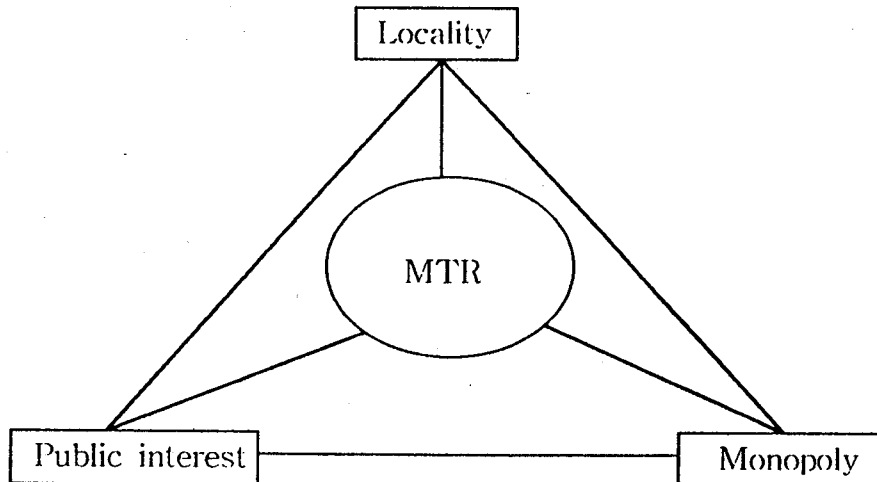
The characteristics of MTR Management can be divided into natural characteristics, basically appearing from the nature of MTR business, and environmental characteristics, appearing in the course of carrying out business. The locality, the public interest and the natural monopoly can be thought as natural characteristics, and the environmental characteristics are the ones appearing in the environment, the size, the finance, the power, and the technology of MTR organization.

<Fig. 1> Characteristics of MTR management



## 1. Natural characteristics

<Fig. 2> Natural characteristics



### (1) Locality

#### 1) Development of local economy.

Through the MTR business lots of jobs can be created and therefore income of citizens can be increased in the region. The construction and management of the MTR can also contribute to economic development of the area by establishing, inviting, and developing related industries.

#### 2) Development and environmental improvement of the region.

MTR increases movement among areas and around the station, playing the role as a starting point of local development, can contribute to the balanced development of the region. MTR can be a foundation of infrastructure to local development. MTR can also contribute to environmental improvement of the area reducing noise, smog, etc..

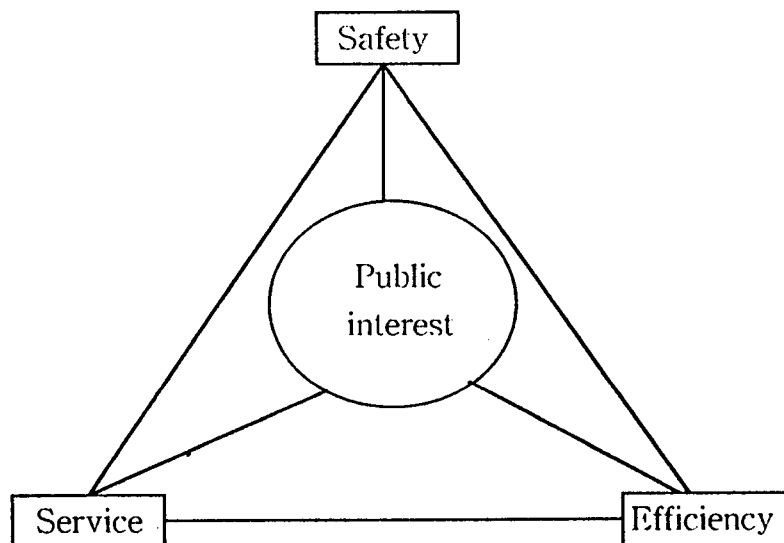
### 3) Criterion of the evaluation to the local government

To the outsides, MTR plays a critical role of forming local image as the face of the local government. To the insides, it can be a measurement of services of local government to the user.

### (2) Public interest

MTR should contribute to the convenience, the benefit and the increase of welfare of the citizens, displaying high efficiency of management. The public interest of MTR consists of safety convenience and efficiency

<Fig. 3> The characteristics of MTR as public business.



#### 1) Safety

The safety should be secured so that MTR can be the reliable and safest transportation.

#### 2) Service

As the feet of the people such service should be supplied as reasonable priced, fast, accurate, stable and low-confused MTR for the increase of convenience and benefit for citizens.

### 3) Efficiency

Management of MTR should be efficient and effective.

### (3) Natural monopoly

Due to its large scale of investment and lower profitability, MTR business has the characteristics of the natural monopoly. Therefore, in most countries MTR are run in the form of public enterprises.

## 2. Environmental characteristics.

MTR has environmental characteristics in the aspect of environment, size, finance, power and technology. Economic, social, cultural and political situations surrounding the MTR management are the important characteristics of MTR.

### (1) Environment

MTR operates in the environment of citizens, local congress, local government and central government.

### (2) Size

MTR operates as a large scale organization with lots of employees.

### (3) Finance

Financing the investment is very important to construct and to operate MTR. An enormous sum of construction money has to be invested to the construction and operation of MTR.

### (4) Labor Relations

MTR operation is indispensable to the life of people in the region. The

Labor Relations of MTR should be treated carefully in the consideration of this aspect.

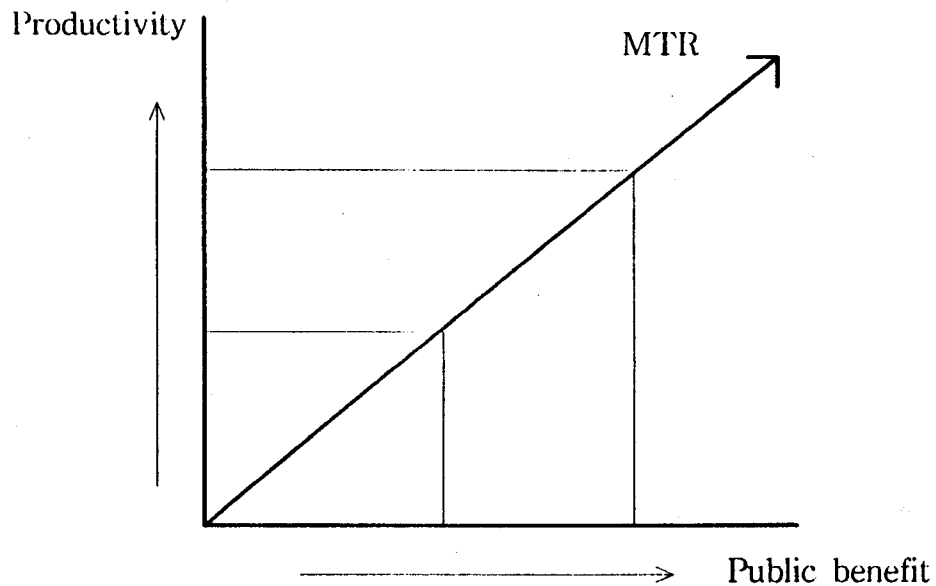
#### (5) Technology

Technology of MTR can be classified into industry-related technology(macro) and specific production-related technology(micro). In the industry-related technology the key technologies in the hardware area are technologies of vehicles, electronics, architecture and civil engineering. The key technologies in the software area are information-communication technologies. There's happening a change of MTR's specific production-related technology from the mechanics-oriented technology to the electronic and information-oriented technology.

## *II. Goal Setting of MTR management*

The goal of MTR management should be placed in high public benefit and in high productivity. Although the public benefit and productivity are thought antagonistic relationships, high public benefit can be possible, only when MTR operates with high productivity. Both of them stand together. Harmony of the public benefit and productivity(high productivity and high public benefit) has to be the goal of MTR.

<Fig. 4> Goal of MTR



## 1. Public benefit

Public benefit takes precedence of all other goals in MTR operation. In the concrete it can be achieved through :

- Safety improvement
- Promotion of user's convenience

## 2. Productivity

MTR has to achieve both the public benefit and productivity. Productivity can be expressed as efficiency or profitability. Preconditions needed to achieve high productivity of MTR operation are :

- Management by professional manager.
- Autonomy of management.
- Responsibility of management.



### *III. Designing the organization system for Mass Transit Railway Management*

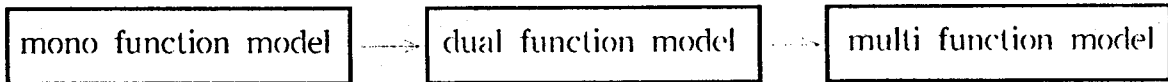
#### 1. Basic strategy

To design the appropriate forms of MTR organization, three basic model of design are suggested.

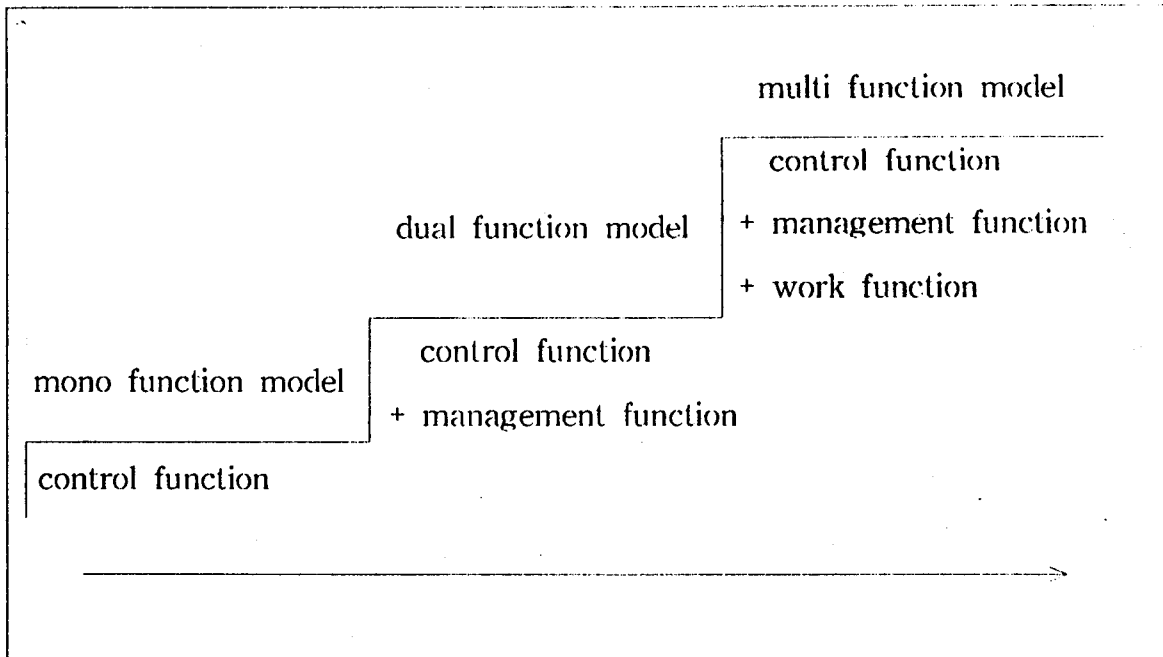
<Fig. 5> Three basic models of designing organization system

Model	Content & Evaluation
Mono-Function Model	<ul style="list-style-type: none"> <li>· Focusing on control function</li> <li>· Lacks of autonomy as public corporation</li> </ul>
Dual-Function Model	<ul style="list-style-type: none"> <li>· Focusing on not only control function but also management function</li> <li>· Limitation of management effectiveness due to ignoring the shop-floor</li> </ul>
Multi-Function Model	<ul style="list-style-type: none"> <li>· Focusing on systematic design of control, management and operation function</li> <li>· Management by entrepreneur, specialists and cooperation between employer and employee</li> </ul>

To design the organization system for MTR in detail, the organization system can be planned when we choose the most compatible model to the situation among above three models with considering situation which the organization faces. According to recent environmental changes of organization, it is desirable for organization to develop step by step like following.



<Fig. 6> Development step of organization



Based on multi function model, we divide the organization into control organization, management organization and work organization.

<Fig. 7> Design for MTR Management

Organization	Content
Control organization	<ul style="list-style-type: none"> <li>◦ Macro design</li> <li>◦ The entrepreneur public corporation &amp; network organization</li> </ul>
Management organization	<ul style="list-style-type: none"> <li>◦ To management professional management organization with autonomy</li> <li>◦ The board of directors and executive managers consisted of empowered experts</li> </ul>
Work organization	<ul style="list-style-type: none"> <li>◦ To build cooperative industrial relations</li> <li>◦ Managing public corporation based on the shop-floor community</li> </ul>

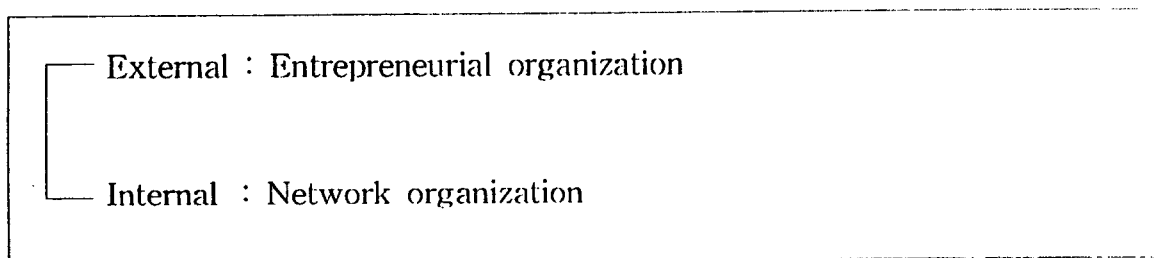
In order to design the organization system of MTR three aspects should be emphasized.

- The entrepreneur public corporation as control structure.
- The autonomous management by professionals as management organization.
- Community-based work organization as the shop-floor organization.

## 2. Control organization design : Entrepreneurial management

Related with control function of MTR management, the control organization can be apart into internal and external aspect.

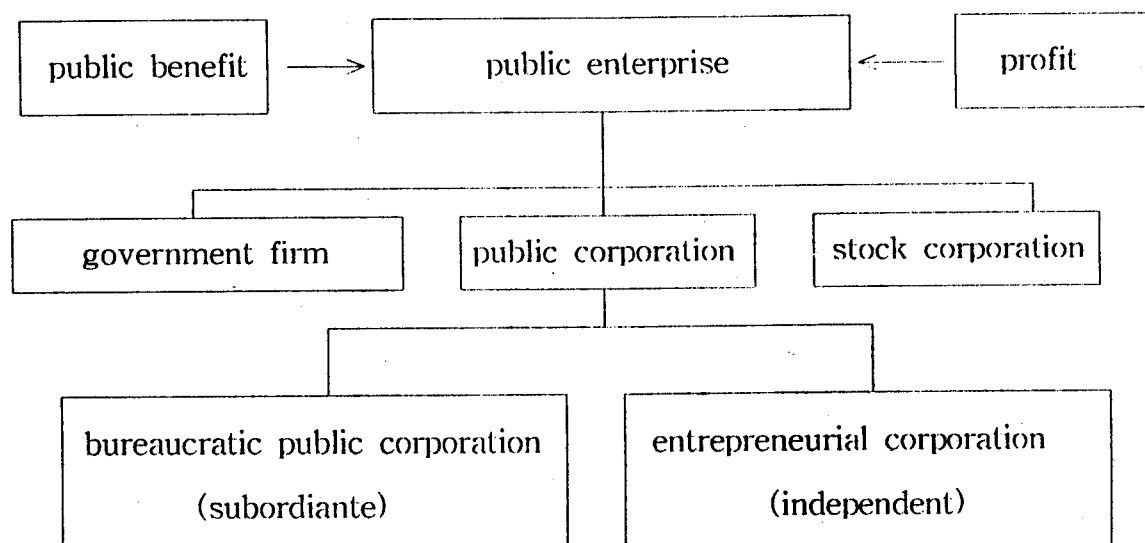
<Fig. 8> Control organization



### (1) Public corporation organization of entrepreneur type

Public corporation can be separated into the bureaucratic corporation and the entrepreneurial corporation. The way of organizational development of MTR has to be developed by the latter (entrepreneurial corporation).

<Fig. 9> Organizational forms of the public enterprise and design of MTR organization



The Public Corporation has to be designed to play the role of an independent economic unit and a social-welfare production unit in structural aspects, and also facilitating efficient management by internal competition and professional managers in functional aspects. The goals of this design are facilitating the autonomy of management as an economic production unit structurally and professionalism of management functionally.

In order to establish the entrepreneur public corporation, the corporation is directed not by the bureaucratic administration control systems but by the professional, autonomous management systems. To construct the Professional, Autonomous Management System, the corporation is managed not by administration agency but by professional management agency based on the substantial separation of ownership and management.

## (2) Network style internal competition organization

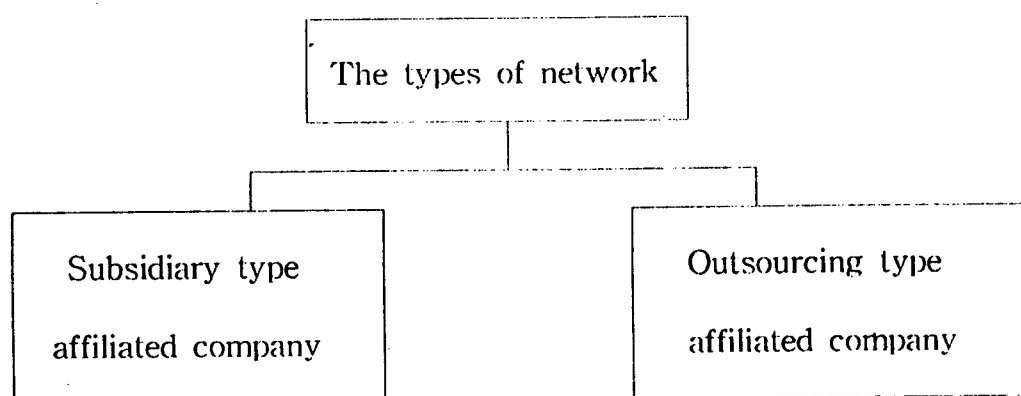
In order to introduce the principle of market competition in the public

enterprise management, competition in internal control structure should be adopted. Therefore, it is desirable to construct the network systems by cultivating diverse affiliated company. By establishing the network systems of MTR Management the effects of facilitating efficiency by specialization of professional fields and contributing the economic development of the region by cultivation of related industries can be expected.

The basic strategy of establishing the network systems of MTR is the separation of activities' sphere. The company is designed to perform only core activities in order to acquire core competence, and also design the affiliated company to perform supportive activities in order to introduce the principle of competition.

The patterns of the network systems is divided by the subsidiary type affiliated company and the outsourcing type affiliated company

<Fig. 10> The types of network systems



The activities' sphere of affiliated company are as follows.

- the routine, repetitive activities
- the scarce activities which needs high expertise
- the independent activities without coordination with other activities.

### 3. Management Organization Design

#### : Professional Management with Autonomy

In order to manage MTR effectively, management organization should be designed as professional management system with autonomy. Professional management organization with autonomy is defined by 'organizations managed by professional manager with expertise competency and based on externaly and internaly autonomous business system'.

Management organization design should be based on the following three principles, so that corporate governance of MTR could be operated by professional management organization with autonomy.

- Configuration of 'the board of directors' and 'executive committee' in order to improve autonomy
- Recruit of professional manager and competent employees
- Effective control and direct of superior government offices

First successful factor of professional management organization design is how the corporate governance improve external autonomy of business. For improvement of external autonomy of business, configuration and role of 'the board of directors' should be designed as the chief legislative organ of decision making about key factor of managemrnt.

There are three kinds of 'the board of directors', which is internal type, external type and combined type. Internal type consists of only internal directors to improve organizational efficiency. External type is organized by just external directors under the control of superior government offices for public interest. Combined type is mixed type between internal and external

type. Combined type is classified by internal-centered type and external-centered type, based on the majority of internal or external directors.

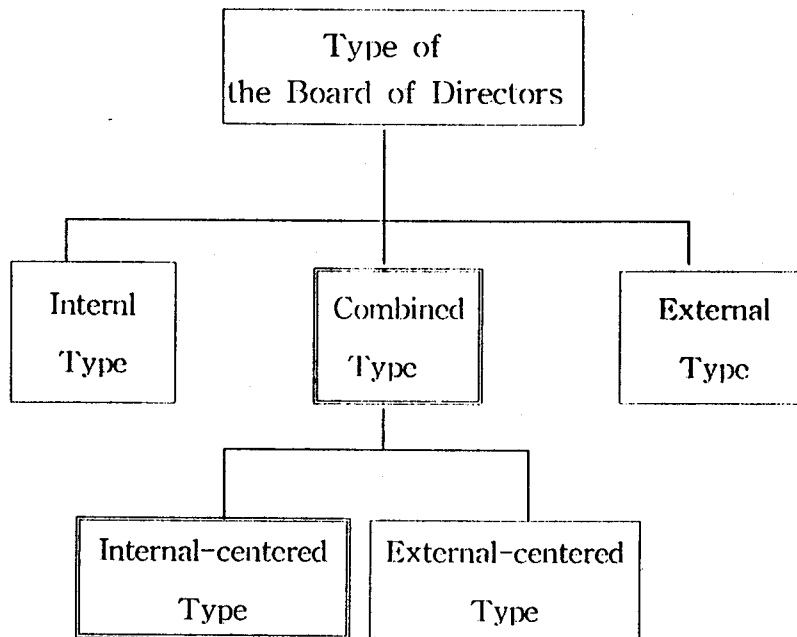
<Fig. 11> Evaluation of 'the board of directors' alternatives

Alternative		Configuration	Authority	Advantage	Disadvantage
Internal Type		<ul style="list-style-type: none"> <li>• only internal directors</li> </ul>	<ul style="list-style-type: none"> <li>• execution</li> </ul>	<ul style="list-style-type: none"> <li>• effectiveness</li> <li>• autonomy</li> </ul>	<ul style="list-style-type: none"> <li>• ignore public interest</li> <li>• difficulty in coordination of interest relationship</li> </ul>
External Type		<ul style="list-style-type: none"> <li>• only external directors</li> </ul>	<ul style="list-style-type: none"> <li>• direction and control</li> </ul>	<ul style="list-style-type: none"> <li>• objective and fair direction</li> <li>• public interest</li> </ul>	<ul style="list-style-type: none"> <li>• bureaucratic governance</li> <li>• ineffective management</li> </ul>
Combined Type	Internal centered Type	<ul style="list-style-type: none"> <li>• majority of internal director</li> </ul>	<ul style="list-style-type: none"> <li>• effective direction</li> <li>• delegation to executive committee</li> </ul>	<ul style="list-style-type: none"> <li>• combine public interest and effectiveness</li> <li>• autonomous management</li> </ul>	<ul style="list-style-type: none"> <li>• possible to ignore public interest</li> </ul>
	External centered Type	<ul style="list-style-type: none"> <li>• majority of external director</li> </ul>	<ul style="list-style-type: none"> <li>• separation direction with execution</li> </ul>	<ul style="list-style-type: none"> <li>• public interest add to effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>• possible to bureaucratic governance</li> </ul>

Internal type, based on organization efficiency, is desired to design in details professional management organization with autonomy. However, reasonable alternative should be combined type because most important characteristics of MTR business are public interest. Among the combined types,

internal-centered type is recommended to reflect on organizational productivity as possible.

<Fig. 12> 'The board of directors' alternatives

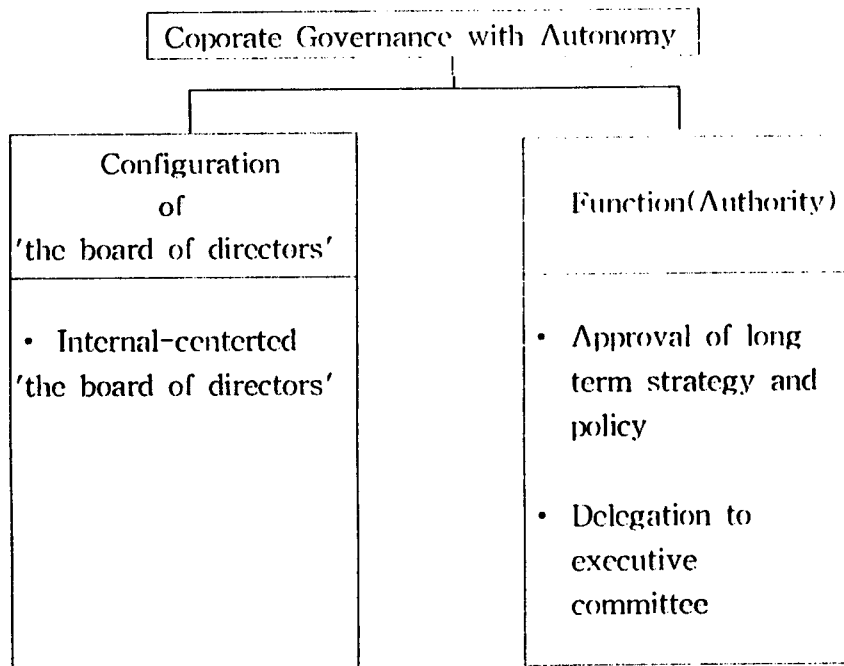


Construct and function of management organization should be designed for entrepreneur corporate governance with autonomy. Construct of management organization should be internal-centered type of 'the board of directors'. Function of management organization should be designed to limit authority and responsibility of 'the board of directors' to the approval of long-term strategy and policy. Instead executive committee, delegated from 'the board of directors', should enlarge its authority and responsibility.



<Fig. 13> Construct and function of 'the board of directors'

Alternatives for autonomous management



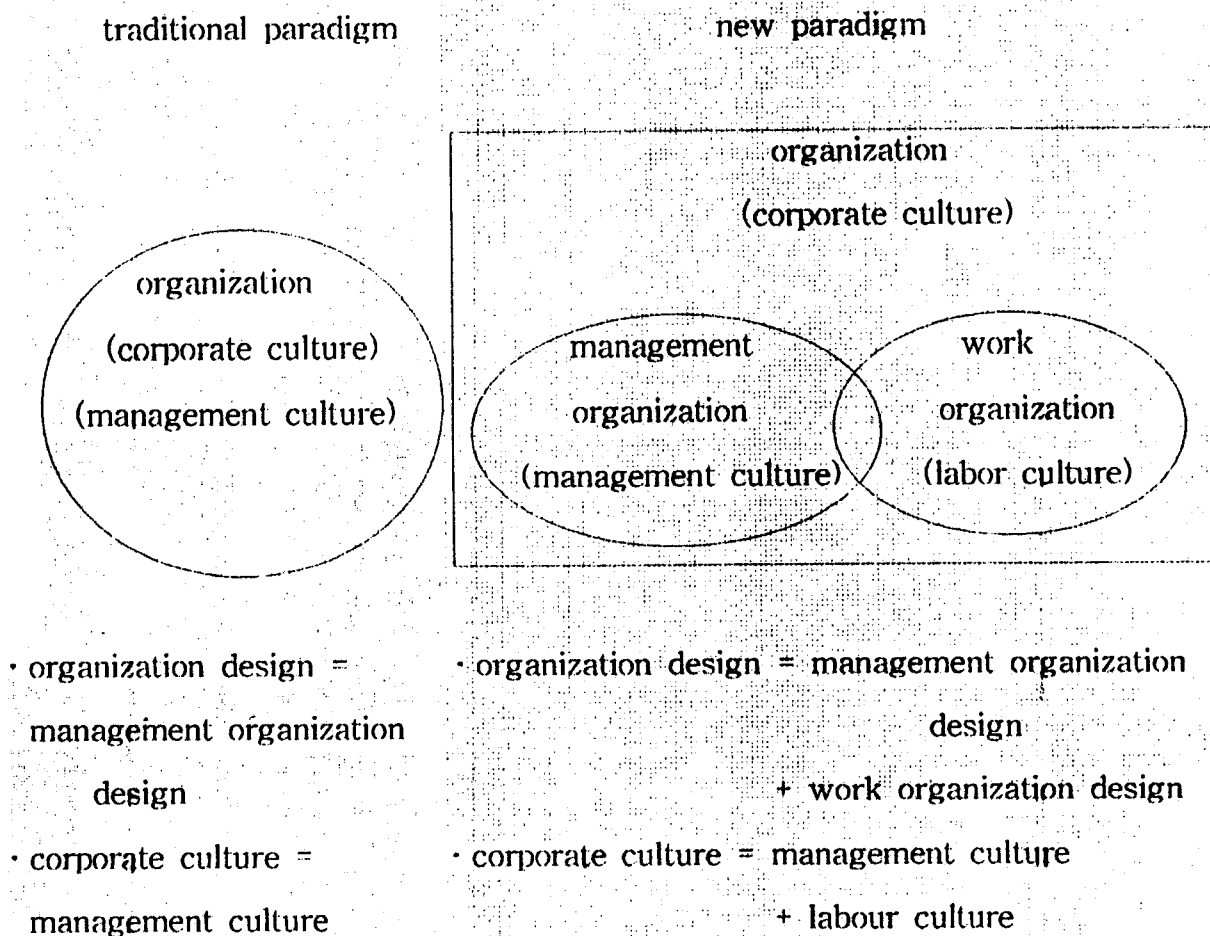
Second successful factor of professional management organization design is how to recruit professional manager and employees. Criterion and method of selection should be set up for selection reliability. And positive requirements of professional manager and employees should be fixed for selection validity.

Third successful factor of professional management organization design is how to interact with control and direct of superior government offices. Under the regulation and laws of government, management organization should be designed to establish the autonomy of budget and personnel.

#### 4. Work Organization Design : Cooperative Labor-Management Relations

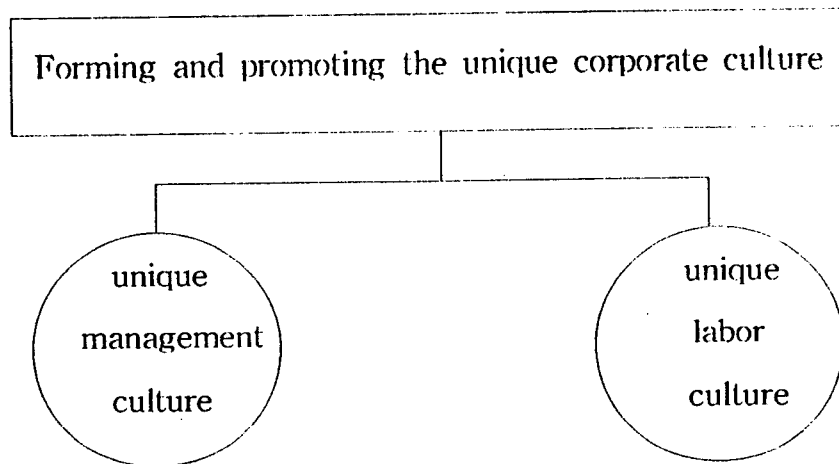
MTR must form and promote its unique corporate culture to establish the activity core of business operating. And when the activity core of business operating is established, the operating core in workplace must be considered. In other words, it is necessary to take a serious view of operating function in designing whole organization. Traditional paradigm in designing organization took a serious view of management function. New paradigm takes a serious view of operating function.

<Fig. 14> Traditional and new paradigm in designing organization



In order to form and promote the unique corporate culture of MTR, in addition to establishing management organization, work organization which promote labor culture and form stable workplace industrial relations, must be designed. In designing work organization, two aspects must be considered. We must try to establish the core rank-and-file of operating work in structural aspect and formulate participative team in functional aspect.

<Fig. 15> Forming and promoting the unique corporate culture



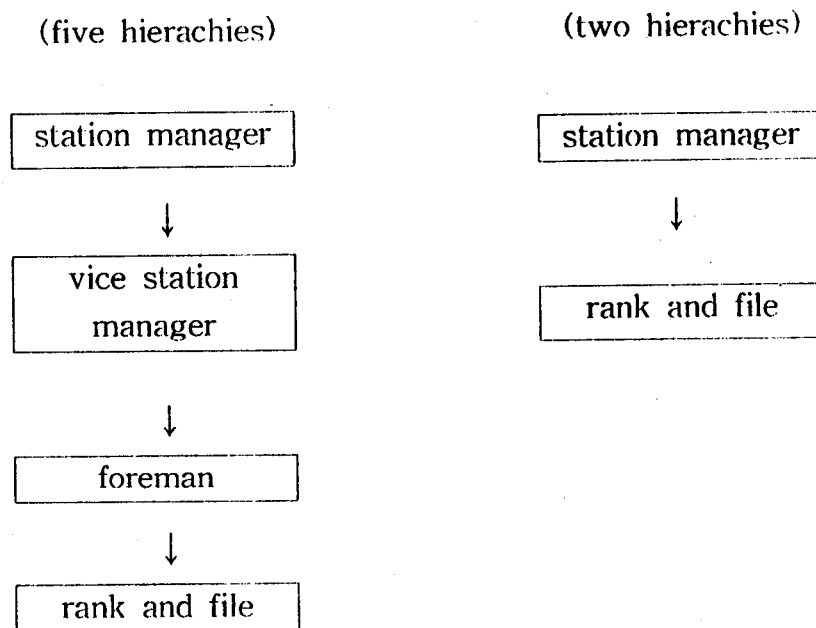
The first issue, establishing the core rank-and-file of operating work in structural aspect to promote labor culture and form stable workplace industrial relations, is that the company must institutionalize supporting programs to have core workforce lead work organization.

The second issue, formulating participative team in functional aspect to promote labor culture and form stable workplace industrial relations, is that the company must institutionalize team organizations to have employee resolve problems in spot with autonomy.

In order to formulate participative team organization, MTR must reduce

decision-making hierachies and empower employees to make decision concerning to operating work. For example of <Fig. 16> in station organization of MTR, five hierachies with 「station manager - vice station manager - foreman - rank and file」 levels are reduced to two hierachies with 「station manager - rank and file」 levels.

<Fig. 16> Reduction of decision-making hierachies in work organization



In order to establish the core rank-and-file of operating work and formulate participative team, MTR Corporation must formulate strategies as <Fig. 17>, which are focused on human resourse development and superior compensation.

<Fig. 17> Strategies for establishing work organization

