The Analysis of the Public Enterprise's Competitiveness and its Policy Implications

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Abstract

Objectives: This study is to examine the direction of railroad in Korea to move forward by identifying the major indicators for improving the railroad competitiveness in terms of economic, organizational and service based on the concept of railroad competitiveness and the present status of railroad industry and measuring the current and future competitiveness level. Methods/Statistical Analysis: This study used survey methods, the survey was carried out 25 experts through by post or through the email. The value measurement area in the improvement of railroad competitiveness for changes in the traffic environments in the future was divided into economic aspects, organizational basis aspects and service aspects based on the theoretical discussion, and these 3 measurement areas were composed of 12 measurement elements and 38 values. Also, the current and future competitiveness levels were analyzed using the average values by applying the general frequency analysis. Findings: The findings of this study are as follows: First, in terms of economic aspects, it is expected that KORAIL would have the overall competitiveness in the future, especially in the scientific maintenance system high speed and linked transport capacity, expansion of profitable fields, and promotion of Eurasia and continent railroad linkage. And, it is expected that KORAIL would have low competitiveness in the advancement in the overseas railway market and the introduction of advanced concept railway transport system in the future. Second, in terms of organizational basis aspects, it is expected that KORAIL would have the overall high competitiveness in the future especially in the employees’ technology and expertise. And, it is expected that KORAIL would have low competitiveness in the realization of win-win labor and management environment in future. Third, in terms of service aspects, it is expected that KORAIL would have the overall high competitiveness in future especially in the pleasantness of railroad environments, establishment and technology development of the railroad safety system and railroad safety education and training. And, it is expected that KORAIL would have low competitiveness in the expansion and efficient management of policy customer group and information security system in future. Improvements/Applications: The analysis in the study emphasizes the followings: first, the improvement of technologies and reinforcement of financial efficiency, second, the reinforcement of human capacity, third, the improvement and reinforcement of safe environments.

Keywords: Competitiveness, Competitiveness Level, Public Enterprise, Rail Road Industry, Traffic Environment

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1. Introduction

The positive point of view on the railroad industry indicates that the market for the urban railroad industry has been secured with high growth potential in the future at least for 50 years to 100 years in the global circumstances with many industries with an uncertain future for each business type and it is necessary to reinforce competitiveness to advance into such market and secure original technologies through the dedication on the technical developments.

Especially, the urban railroad industry in our country has increased the localization rate of parts significantly and the industry also has secured 40 years’ experience in all fields including operation, construction and self development so that it is available to advance into overseas railway market, it is also evaluated that it has secured competitiveness in the know-how to construct urban railroad, experience in the operation of urban railroad and the finance. (PN News, 2016. 2. 19).

The purpose of this study is to examine the direction of railroad in Korea to move forward by identifying the major indicators for improving the railroad competitiveness in terms of economic, organization and service based on the concept of railroad competitiveness and the present status of railroad industry and measuring the current and future competitiveness level.

2. Theoretical Discussion

2.1 Concept

As IMF scaled back the global economic growth rate from 3.3% to 3.1% in 2013, from 4.0% to 3.8% in 2014 by 0.2% respectively, the global economic growth is going through a slump and the public sector also has introduced the most advanced management technique and promoted the management efficiency aggressively so that “competitiveness” has emerged as an important concept. If the public enterprises do not have competitiveness, this will increase government deficit and the burden lay on the people, so securing the competitiveness of public enterprises is a very important problem.

There are various factors that measure competitiveness, and typically IMD defines global competitiveness as ‘the state capacity to create and maintain various conditions that could sustain the enterprise competitiveness’ and evaluates it with 314 items in 20 fields (as of 2005) by dividing the competitiveness field into 4 fields including economic management performance, governmental administration efficiency, corporate management efficiency and development infrastructure and then classifying each field into 5 sections again.

2.2 Review of Precedent Studies

There is almost no study examining the priority order of competitiveness factors with regard to railroad competitiveness, and studies regarding the measures to reinforce the competitiveness of public enterprises or to advance into overseas market for reinforcing competitiveness are being studied frequently. A representative recent study regarding the railroad competitiveness is a study conducted by that the relative priority order based on the reinforcing factors for KORAIL’s railroad competitiveness was analyzed. In this study, strategic measures that could reinforce public enterprises’ competitiveness and policy implications were drawn specifically by identifying the relative priority order between railroad competitiveness factors. Meanwhile, examined the roles of public enterprises to advance into overseas railway market and effective strategies to win an order through the review of overseas advancement cases of foreign railway agencies and cases of domestic public enterprises to obtain an order of overseas projects and discussed the foundation to improve a possibility for public enterprises to advance into overseas market, and analyzed the adjustment effect of local network utilization level in the relationship between strategic role and performance of overseas subsidiaries targeting 121 foreign investment enterprises advanced into domestic manufacturing industry.

In addition, there are some studies including the study conducted by regarding securing of national competitiveness and improving social welfare through the management efficiency in the public sector through the privatization of public enterprises in the global economic downturn, the study
conducted by\textsuperscript{6} on the management efficiency of public enterprises, the study conducted by\textsuperscript{2} presenting the measures to reinforce competitiveness through the improvement of profit structure of public enterprises.

Likewise, studies investigating the reinforcing factor of public enterprises’ competitiveness are very important but there are not many studies regarding the measures to reinforce the public enterprises’ competitiveness. Since analyzing the competitiveness level of public enterprises systematically in the rapidly changing global environments and finding response measures in future is a very important factor for the survival and development of public enterprises, so systematic studies regarding this are necessary.

2.3 Research Methodology

The survey was carried out 25 experts from July 25, 2015 to July 30, 2015 through by post or through the Internet (e-mail), and the interview targeting the experts was carried out after the survey in order to secure the validity of analysis result. For the questionnaire for expert, 25 out of 25 copies (recovery rate - 100%) were returned, and the current and future competitiveness levels were analysed using the average values by applying the general frequency analysis.

In the analysis of current and future competitiveness levels of railroad targeting the experts, the hierarchical structure in 3 levels, such as 1st level $\rightarrow$ 2nd level $\rightarrow$ 3rd level as shown in Table 1, 2, 3 was organized, and this is because the importance of railroad competitiveness improvement indicators can be understood systematically when discussion is made under such hierarchical structure.

The estimation of change in transportation environments was set as the measurement goal in this study, and the value measurement area on the improvement of railroad competitiveness for changes in the traffic environments in the future was divided into economic aspects, organizational basis aspects and service aspects based on the theoretical discussion, and these 3 measurement areas were composed of 12 measurement elements (4 variables for each aspect) including international cooperation (A1), improvement of technology (A2), reinforcement of financial efficiency (A3), establishment of linked transport system and railway logistics efficiency (A4) for the economic aspects at the 2nd level, spreading of integrity culture (B1), settlement of performance-based responsible management (B2), reinforcement of personal competency (B3), Government 3.0 communication and cooperation (B4) for organizational basis aspects, and improvement of service (C1), reinforcement of social contribution and policy network (C2), reinforcement of information conditions (C3) and improvement of safety environment (C4).

3. Results

In this study, the current and future levels of the main indicators in economy, organization basis and service field were measured targeting experts and the gap between the current level and future level was analyzed through the comparison of average value in order to diagnose the level of KORAIL’s railroad competitiveness. Also, the current and future levels of KORAIL’s competitiveness were analyzed by KORAIL’s internal and external experts.

3.1 Economic Aspects

In terms of economic aspects, KORAIL has competitiveness currently in high speed and linked transport capacity (3.32), scientific maintenance system (3.08) and expansion of profitable fields (3.08) as seen in Table 1. And, KORAIL has low competitiveness currently in the cooperation in two Koreas’ railway systems and introduction of advanced concept railway transport system.

In terms of economic aspects, it is expected that KORAIL would have the overall competitiveness in future especially in the scientific maintenance system (4.96) high speed and linked transport capacity (4.92), expansion of profitable fields (4.88), and promotion of Eurasia and continent railroad linkage (4.80).

And, it is expected that KORAIL would have low competitiveness in the advancement into the overseas railway market and introduction of advanced concept railway transport system in future.
Table 1. Analysis of current and future levels of railroad competitiveness (Economic aspects)

| Contents                                                                 | CLA* | FLA** |
|-------------------------------------------------------------------------|------|-------|
| Economic aspects                                                       |      |       |
| A1 Promotion of Eurasia and continent railroad linkage                  | 2.52 | 4.80  |
| Cooperation in two Koreas’ railway systems                              | 1.88 | 4.44  |
| Advancement into overseas railway market                                | 2.24 | 4.20  |
| A2 Scientific maintenance system                                        | 3.08 | 4.96  |
| High speed and linked transport capacity                                | 3.32 | 4.92  |
| Development of next generation Korean high-speed railroad technology    | 2.76 | 4.36  |
| A3 Rationalization of financial operation                               | 2.80 | 4.36  |
| Expansion of profitable fields                                          | 3.08 | 4.88  |
| Functional adjustment of subsidiary companies and business operation    | 2.84 | 4.28  |
| efficiency                                                             |      |       |
| A4 Establishment of railroad-based linked traffic system                | 2.72 | 4.52  |
| Establishment of combined railway logistics transport system             | 2.36 | 4.24  |
| Introduction of advanced concept railway transport system               | 2.00 | 3.96  |

* CLA: Current level average, ** FLA: Future level average

3.2 Organizational Basis Aspects

In terms of organizational basis aspects, KORAIL has competitiveness currently in the spreading of integrity culture such as integrity education and eradication of corruption as well as the introduction of performance management system and employees’ technology and reinforcement of expertise as seen in Table 2. It is caused by the fact that public enterprises are making a lot of efforts to improve their integrity recently. And, KORAIL has low competitiveness currently in the securing of rationality in personnel management and realization of win-win labor and management environment. It is caused by the fact that KORAIL has a strong railroad union and there has been an intensified conflict between labor and management.

Table 2. Analysis of current and future levels of railroad competitiveness (Organizational basis aspects)

| Contents                                                                 | CLA* | FLA** |
|-------------------------------------------------------------------------|------|-------|
| Organizational basis aspects B1 Establishment of integrity infrastructure | 3.00 | 4.40  |
| Integrity education                                                     | 3.28 | 4.44  |
| Eradication of corruption                                               | 3.08 | 4.28  |
| B2 Establishment of pay system based on the duty and performance         | 2.84 | 4.28  |
| Establishment of performance management system                          | 3.04 | 4.48  |
| Securing of rationality in personnel management                         | 2.68 | 4.36  |
| B3 Realization of win-win labor and management environment               | 2.60 | 4.04  |
| Employees’ technology and expertise                                      | 3.08 | 4.92  |
| Improvement of work environments                                        | 2.80 | 4.44  |
| B4 Cooperation with major ministries                                     | 2.84 | 4.48  |
| Cooperation system between railroad industry-related institutions        | 2.76 | 4.32  |
| Settlement of a conflict between stakeholders                           | 2.72 | 4.28  |

* CLA: Current level average, ** FLA: Future level average

In terms of organizational basis aspects, it is expected that KORAIL would have the overall high competitiveness in future especially in the employees' technology and expertise. And, it is expected that KORAIL would have
low competitiveness in the realization of win-win labor and management environment in future.

3.3 Service Aspects

In the service aspects, the overall average score is high, indicating that KORAIL has the competitiveness in the service aspects. Especially, KORAIL has competitiveness currently in social contribution activities, pleasantness of railroad environments, diversification of promotion targets and online and offline promotion activities, protection and management of personal information and railroad safety education and training as shown in Table 3.

Table 3. Analysis of current and future levels of railroad competitiveness (Service aspects)

| Contents                                                | CL* | FL** |
|---------------------------------------------------------|-----|------|
| C1 Customized operation service                         |     |      |
| Pleasantness of railroad environments                  | 3.40| 5.00 |
| Customized service                                      | 2.80| 4.48 |
| C2 Social contribution activities                       |     |      |
| Diversification of promotion targets and online and offline promotion activities | 3.40| 4.72 |
| Expansion and efficient management of policy customer group | 2.92| 4.40 |
| C3 Information security system                          |     |      |
| Protection and management of personal information       | 3.28| 4.56 |
| Integration level of IT technologies                    | 3.12| 4.80 |
| Provision of customized information service             | 2.56| 4.52 |
| C4 Establishment and technology development of railroad safety system |     |      |
| Railroad safety education and training                  | 3.24| 4.88 |
| Disaster response system                                | 2.72| 4.48 |
| Safety facility                                         | 3.24| 4.84 |

* CLA: Current level average, ** FLA: Future level average

It is caused by the fact that public enterprises are reinforcing their social contribution activities recently and the pleasantness of railroad environments such as KTX has been improved. And, KORAIL has low competitiveness currently in the provision of customized information service, establishment and technology development of railroad safety system, disaster response system and information security system. This means that KORAIL needs to make more efforts to develop customer-oriented services and implement safer railroad in preparation for terror.

In terms of service aspects, it is expected that KORAIL would have the overall high competitiveness in future especially in the pleasantness of railroad environments, establishment and technology development of railroad safety system and railroad safety education and training. And, it is expected that KORAIL would have low competitiveness in the expansion and efficient management of policy customer group and information security system in future.

4. Policy Implications

Based on the analysis results above, the following efforts are necessary for securing the corporate competitiveness according to the opening of railroad market.

First, the improvement of technologies and reinforcement of financial efficiency are more important than anything in terms of economic foundation, and based on these elements, it is necessary to make continuous efforts for establishing international cooperation, linked transportation system and efficiency in railway logistics. In this process, it is considered that the cases in Japan and France could provide excellent implications for reinforcing the financial efficiency of KORAIL, and in case of Japan, the railway companies with low profitability were required to establish management safety fund to cover their deficit and additional businesses such as the investment in real estate, tourism, entertainment business and distribution business were permitted besides the railroad business while the rail privatization was carried out to compensate for operating losses from the railroad business. In case of France, financial supports were provided to minimize an increase in the debt while entrusting the SNCF’s burden of liabilities to RFF, and the standard of imposing the facility charges was amended to increase the revenue. The both cases contributed to Japan and France railroads to secure the world’s best competitiveness. Therefore, national policies to write off the debts of KORAIL are urgently necessary in Korea in order to help
KORAIL to compete with the world’s best overseas railroad companies. It is also necessary for the government to make efforts to cover accumulated deficits according to the various fare discount policies of the government politically in order to establish the basis which allows KORAIL to maintain sustainable management.

Second, the reinforcement of human capacity is more important than anything in order to secure KORAIL’s competitiveness in terms of organizational foundation, and based on this element, efforts to settle the performance-based responsible management, make communication and cooperation and spread the integrity culture are urgently needed. As shown in the cases in England, Japan and France, it is necessary to make organizational and operational efforts to prevent reckless management, introduce the integrated management system for efficient management, reinforce the capacity of KORAIL through reorganization and secure safety through a responsible non-profit company in order to assign the role of control power for improving active cooperation between the top and the bottom and task linkage in the system of separation of infrastructure and operation. Eventually, efforts to build an excellent workplace to work for through improvement of work environments and quality of employees’ life and provision of additional services are necessary.

Third, the improvement and reinforcement of safe environments are more important than anything in order to secure KORAIL’s competitiveness in terms of service, and based on this element, efforts to improve its service, reinforce information conditions, social contribution and policy network are urgently needed. According to the cases in advanced countries such as England and France, the trend of increase in passenger transport and decrease in car go transport is shown equally in most countries, so in order to secure the competitiveness of KORAIL, it is necessary to introduce discount benefits through continuous investments for the expansion of high speed rail network and introduction of various fare systems and strategic fare system to control the financial performance at the same time. Especially, heavy investments should be made on the environments and safety while promoting the expansion of high speed railway intensively as well as the efforts such as expansion of investments on R&D such as railroad track technology and tunnel technology for securing technologies, improvement of capacity and provision of better services to passengers should be made.

5. Conclusions

Many governments applied the management methods and market orientation of private sector to the public sector based on the New Public Management (NPM) in 1980s and 1990s in order to maximize the efficiency in the public service, and as a result, some results such that the vertical responsibilities in the public institutions and the responsibilities between institutions became more clear and the efficiency and transparency in the operation of public institutions were improved were obtained. However, the reform of public sector based on the NPM established vertical administrative operation and management system that only emphasized the responsibility and performance of relevant institutions that made the cooperation between public institutions or public institutions and the government difficult and raise problems that the overall influence and effects of function and activities of the public institutions on the society or customers were not considered properly.

Most difficult problems that our society is facing currently and the public service demanded by the people require the integrated responses mutually linked and coordinated between the government, public institutions and the people. When these main agents make efforts together for solving policy issues and providing services through the horizontal linkage, the competitiveness of public institutions could be secured. Currently, KORAIL are making various efforts to improve the railroad competitiveness while preparing for such changes in the fundamentally changing future environments such as population decrease and aging, rapid megalopolitanization, global economization, raised interest on United Korea and advent of the two Koreas’ railway systems, emergence of climate change and energy issues, change in lifestyle and rail privatization.

According to the result of this study, KORAIL needs to examine the important factors for securing future competitiveness systematically and establish the relevant strategies. Also, KORAIL needs to examine the strategies and the road map based on such sustainable management promotion system, practice sustainable business at the corporate level in response to risks, make efforts to create the shared values between the corporation and the society by reflecting the opinions of various stakeholders on the management activities and step up as a competitive corporation in the future again based on such efforts.
6. Acknowledgments

The contents of KORAIL policy research project (railroad competitiveness improvement measures in preparation for changes in transportation environments in future) in 2015 was cited partially in this study.

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