

Financial turnaround of the Indian Railways: Good Luck or Good Management?

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Abstract

We analyse the factors that led to the turnaround of the Indian Railways from a low performing organisation to a high performing one. Literature on public sector turnaround provides the theoretical underpinnings. Enterprise turnaround is often ascribed to managerial leadership; we found that environmental factors (good luck) contributed in a substantial way to the success of Indian Railways. The implication of our study is that an organisation's turnaround success needs to be put in a wider context.

On 15 April 2006, the Washington Times carried a lead story on the turnaround of the Indian Railways (IR) — a departmental organisation run by the Government of India (GOI). It stated ‘...few now doubt that Mr. Yadav (Minister for Railways) has presided over an impressive business turnaround ...more importantly, he’s taken the world’s largest employer — a government giant of 1.5 million employees — and boosted revenues by 15.5 percent without raising fares’ (Nelson, 2006:1). Pai Panandiker states ‘Indian Railways has turned around and made an estimated profit of \$2.5 billion in 2005-2006. What is important, however, is that, unlike previous ministers, Mr. Yadav has looked upon Railways as a commercial enterprise and not a social welfare institution. [He] is a hard taskmaster and will ensure his subordinates carry out the projects’ (Pai Panandikar, 2006:1). The former Railway Minister (Mr Nitish Kumar), however, claimed that the foundation for the turnaround was laid down by him, the results of which are being realized now. In the media interviews, he charged that Mr Yadav (who became the Railway Minister in May 2004) is usurping the credit for the IR success. It is important to note at this stage, that since 2004 the growth rate of the Indian economy has nearly doubled as compared to the three years prior to that. Did the favorable economic environment help the IR turnaround or was it only due to the managerial leadership provided by Mr Yadav —the current Railway Minister? What caused the IR turnaround — good management, good luck or both — this is the question that we explore in this paper within the framework of public sector turnaround literature.

The study is important for several reasons. First, there is a growing interest worldwide in strategies for turnaround of public services because of the growing awareness that public resources need to be efficiently deployed. Beerli (2006), states ‘the wide interest in New Public Management (in UK) created a different reality that has less tolerance toward failures’. Studies by Boyne, 2002; Glynn & Murphy, 1996 also underscore this changed reality. The case of the IR is particularly important given the large investment of the GOI in the IR and the need to get adequate return on investment. Second, the research on turnaround has largely focussed on the impact of managerial strategies. Boyne and Meier (2005), however, argue that ‘turnaround is also attributable to good luck, defined as a favourable shift in external conditions that are beyond the control of a failing organisation’. We examine the IR turnaround from both these perspectives — good luck and good management. Last, public sector turnaround studies so far have focussed on local councils, utilities, housing authority, police department etc. Railways are one of the largest public services organisations and interestingly haven’t been subjected to research in the public sector turnaround literature. Our study fills this gap.

As already stated, the central question we attempt to answer is: What factors have led to the turnaround of the IR: Good luck, good management or both? To achieve the aim of the study we use the case study method. This method is suitable for the objectives of the study given the uniqueness of the IR in particular, which will be evident from the description given in paragraphs that follow. The theory of public sector turnaround underpins this case study. Publicly available data about the IR has been analysed. We found that both managerial leadership and good luck contributed to the success of the IR. We suggest that turnaround successes need to be put in a wider context. Besides managerial actions, favourable environment also contributes to the success — an aspect that has hardly received attention in organisational turnaround studies.

The paper is organised as follows. Section 2 provides an overview of the financial performance of the IR. Section 3 reviews the literature on strategies for public sector turnaround Section 4 is about data and method, Section 5 is about analysis and results and Section 6 concludes.

OVERVIEW OF THE FINANCIAL PERFORMANCE OF THE INDIAN RAILWAYS

The IR is a departmental activity of the GOI. It is the largest organization in India, with a capital investment of about of ‘Rs 55,000¹ crores...(and) has also been pivotal to the developing economy of the country as a whole’ (SCOR, 2005: 6). The IR accounts for nearly one percent of the GDP and with a staff of 1.5 million is the largest employer in the organized sector. The IR is the principal public transport in the country. It has a total length of 63,322 km (second largest in the world), carries 14 million passengers per day and has a separate budget - distinct from the GOI budget. According to the World Bank, the IR is one of the top five national railway systems in the world; others being the United States, former Soviet Union, Canada and China (Thompson and Fraser, 1993:1). China and India have, more or less, comparable railway system in terms of track length, large land mass and population exceeding one billion. ‘Its size, and its mode of operation as a government department, present special challenges for the management of railways as a commercial enterprise. They also add to the difficulty of responding to both short and long-term changes in transport market conditions’ (ADB, 2002: 1). Given the importance of the IR in the context of the Indian economy, the GOI was concerned about its declining financial performance in the late 90s. Consequently, the GOI appointed the Rakesh Mohan Committee (RMC) to review the IR’s operations. The Committee stated that ‘IR is today on the verge of a financial crisis. Urgent action is needed to revitalize it so that it can continue to serve the nation’ (RMC, 2001:1). The financial performance decline of the IR can be gauged from the key financial performance indicators shown in Table 1 (see appendix). The Comptroller and Auditor General of India (CAGI), the Reserve Bank of India (RBI), as well as the World Bank transport division, among others, use these indicators for financial performance assessment of the railways (World Bank, 1987).

One can discern from Table 1 that the financial performance of the IR declined in 2001 (as compared to 2000) in respect of all the four indicators. Besides this, the freight volume growth of the IR also deteriorated during 1990s. The annual growth rate of freight cargo transportation fell from an average of 5.33 percent between 1984 to 1991 to 1.86 percent during 1992 to 1999 (RMC, 2001:1). This deterioration continued till 2001 — the year in which the surplus had hit a nadir. Due to the decline in revenue the IR ‘had to defer payment of dividend partially during the years 2000-01 and 2001-02’ (RBI, 2006: 12).

The RMC (2001: 1) identified several causes of the IR financial performance decline. These, among others, included the loss of market share in the profitable freight business, lack of flexibility in pricing, and the high cost of internally sourced products and services together with investments in un-remunerative projects. The RMC noted that lack of accountability was the prime source of the IR’s problems which were compounded by the rising employee cost and poor staff productivity (staff costs account for nearly half of the total operating costs of the IR). Malik (2005:2) identified ‘political profligacy’ as one of the major impediments for the poor financial state of the IR. Thus, the key reason for the IR’s financial performance decline was politicization of the decision-making processes that emphasized taking populist action over hard business decisions. This philosophy had to undergo change in order to make the IR a truly business oriented corporate organization. The philosophical change began in

¹ Rs 550 billion. Rs 40 is equal to one USD approximately.

2001 as is evident from the statement made by the then Railway Minister Mr Nitish Kumar (see subsequent paragraphs). The change in philosophy appears to have shown impressive results in the years that followed. There was a rise in dividend payments, substantial jump in annual growth rate of freight cargo transportation and a fall in the operating ratio (the ratio of total working expenses to total gross receipts). Several financial and operating financial performance indicators of the IR are compared in Table 2 (see appendix). The operating ratio which hit a maximum of 98.3 in the financial year ending March 2001², was brought down in subsequent years to 78.7 by 2007. Similarly the ratio of net revenue to capital which declined to 2.5 (2001) rose to 19.6 (2007). The annual average growth rate of freight cargo transportation jumped to 7.67 percent (2007) as against 1.4 percent (2001). The surplus rose from Rs 763 crores in 2001 to Rs 10,628 crores in 2007. Similarly, the dividend payment (which had to be partially suspended in 2001 and 2002) rose to Rs 3,579 crores in 2007. .

These facts demonstrate that the IR has turned the corner and improved its financial performance in the last five years. How could the IR achieve such a spectacular turnaround in such a short period of time is a question of interest and the following sections explain the various strategies adopted by the IR and the beneficial environmental factors that helped it in this turnaround. But before that happens, we review the literature on public sector turnaround within which the financial performance of the IR has been analyzed.

LITERATURE ON STRATEGIES FOR PUBLIC SECTOR TURNAROUND

Turnaround has been defined as ‘performance decline followed by performance improvement’ (Schendel *et al.*, 1976; Robbins and Pearce, 1992). Brandes and Brege (1993, p. 92) define it as ‘a process that takes a company from a situation of poor performance to a situation of good sustained performance’. While the literature on the factors that lead to organisational turnaround in the private sector is well developed, the one on public sector turnaround is of recent origin. Beeri (2006) states ‘Turnaround Management Strategies have been researched widely in the private sector as part of the organizational study area. However, only recently these strategies have been researched in the public sector’. Research in the private sector context ascribes successful turnarounds to appropriate application of managerial strategies. Three major strategies are retrenchment, repositioning and reorganisation (Hoffman, 1989; Pearce and Robbins, 1993). Retrenchment includes sub-strategies like ‘quitting difficult markets, deleting unprofitable product lines, selling assets, out-sourcing and downsizing’ (Boyne and Meier, 2006). Several empirical studies support this strategy. Robbins and Pearce (1992, 1994) state that ‘divesting assets and cutting costs are the foundations of business recovery’. Hoffman (1989) states that the key to turnaround is cutting costs. According to Hambrick, (1985) retrenchment as a turnaround strategy has ‘efficiency’ orientation. Some of the recent studies that have found a significant positive relationship between retrenchment strategy and organisational turnaround include those by Bruton *et al.*, (2003); Dawley *et al.* (2002); and Morrow *et al.*, (2004). The central element of retrenchment strategy is ‘an emphasis on cutting costs and raising efficiency’ (Boyne and Meier, 2006:23). Following from the above, we posit as under:

Proposition 1: Retrenchment strategy has a positive relationship with organisational turnaround.

² 2001 refers to the period April 2000 — March 2001. Rest of the paper follows this practice.

While the focus of retrenchment as a strategy is on cost reduction and identifying and correcting inefficiencies within the organisation, the focus of repositioning strategy is on revenue raising. The central element of the repositioning strategy is that 'it generates revenue..' (Boyne and Meier, 2006:7). Its focus is on growth and innovation. It is, therefore, an entrepreneurial strategy (Schendel & Patton, 1976). Boyne (2006) states that it involves several sub-strategies such as 'moving into new markets, seeking new sources of revenue, developing new products and altering the mission and image of a company'. It also emphasizes altering the way customers, suppliers and creditors view the organisation (Arogyaswamy et al. 1995). Recent studies that have found a positive relationship between repositioning and organisational turnaround include those by Dawley et al., (2002) and Evans and Green (2000). This leads us to the following proposition:

Proposition 2: Repositioning strategy has a positive relationship with organisational turnaround.

Another of turnaround strategy found in the literature refers to re-organisation. Boyne (2006) states that this includes sub-strategies such as 'changes in planning systems, the extent of decentralisation, styles of human resources management or organisation culture'. This may also include replacement of leadership and other senior managerial staff. Turnaround literature has mainly focused on how the top leader and other senior managerial staff exert positive influence on organisational recovery. Similarly wider overhaul of human resources strategy by employing staff with key skills is found to lead to, among others, financial performance enhancement. Recent studies among others by Hitt et al., (2001) and Skaggs and Youndt (2004) support this view. Following on from this we construct the following proposition:

Proposition 3: Reorganisation strategy has a positive relationship with organisational turnaround

All organisations operate in an economic, socio-political and regulatory environment that impacts their financial performance. We group these factors as environmental factors. Interestingly, turnaround literature has not paid specific attention to the influence of this factor barring the study by Boyne and Meier (2005). One can't place an *a priori* sign on the direction of the impact of environmental factors on organisational financial performance. Favourable environmental factors may impact organisational recovery positively. For example, export incentives may positively impact on financial performance of an organisation dependent upon foreign markets and vice versa. This leads us to the final proposition of our study:

Proposition 4: Favourable environmental factors would positively impact organisational turnaround.

The interrelationship of these factors to organisational turnaround is depicted in Figure 1 (see appendix).

DATA AND METHOD

The data required for the case study was obtained from multiple sources like the website of the Indian Railways, Railway Budget documents, speeches of the Railway Minister, and other published sources including performance and financial audit reports of the CAGI, the RBI, the Asian Development Bank Reports, and the report of the RMC on Railways appointed by the GOI. To obtain real changes in various variables, we have used the wholesale price index (WPI) data available from the Office of Economic Advisor, Ministry of Commerce and Industry. WPI has been used because there is no country wide consumer price index data available for India. We use the case study method which is an appropriate research method for this type of study. It is commonly used when the study involves a single organization with unique characteristics. 'Case study is an ideal methodology when a holistic, in-depth investigation is needed' (Feagin, Orum, & Sjoberg, 1991). We examine the data for the period from 1996 to 2007, that is, five years prior to 2001 (the year in which the IR financial performance hit its nadir) to five years including and after 2003 - the year in which the IR turnaround started. This time period captures the downward trend in the IR financial performance as well as its recovery to a high performing organisation. We examine the strategies followed by the IR in the light of the public sector organisational turnaround framework described above. We examine whether there is adequate evidence to support that a particular strategy was followed by the IR (in the years after the 2001 RMC report) and whether it yielded desired effect to facilitate the turnaround. We studied each of the actions taken by the IR since 2001 and aligned it against the three principal strategies and sub-strategies from public sector turnaround literature already indicated above. In the context of the railway sector, financial performance turnaround is usually gauged from four key indicators viz., operating ratio, net surplus, dividend paid on capital, and net revenue to capital ratio. The CAGI, the RBI and the World Bank use these ratios for financial performance evaluation of the railway sector.

ANALYSIS AND RESULTS

The basic plank of the IR turnaround is its shift towards market orientation and customer focus. As the then Railway Minister Mr Nitish Kumar said while presenting his 2001-02-budget speech 'Railways need to develop market oriented and customer friendly outlook due to emerging competition within the transport sector'. Mr Yadav also underscored this policy in his first railway budget speech on 6 July 2004. The Minister stated 'with a commercial orientation, aggressive marketing and economy measures, the Railways would be continuously working towards further improving their financial performance' (Yadav, 2004:1-2). That he was continuing the reform process already begun by his predecessor can be vouched from his statement in the same budget as under:

Railways **have** initiated many policy changes to meet the requirements of its customers, be it freight or passenger services. While **continuing** the process of reforms.....other priority areas will be...improvement in passenger amenities... control over expenditure and stepping up of measures to prevent leakages of revenue. (Yadav, 2004:2. Emphasis added)

Following from this strategic direction, the Railway administration initiated several actions that could be grouped under the turnaround strategies described above. Appendix I shows in a summary form actions taken by the IR against each of the strategies and the outcome achieved in terms of cost reduction/revenue raising etc. Appendix I, shows that the financial turnaround of the IR (represented by E) is a function of factors retrenchment (A),

repositioning (B), Reorganisation (C) and environmental conditions (D). According to Mr Yadav it was factors A, B and C, that is, 'good management' which led to the IR turnaround. We demonstrate in this paper that it was factor D which contributed substantially to the turnaround of the IR, though factors A, B and C also played some part. A description of the actions taken by the IR in respect of each of these strategies follows:

Retrenchment (cost cutting initiatives)

This principal strategy consists of several sub-strategies including reviewing parts of businesses that are not value adding, withdrawing from markets where the firm is performing poorly, selling assets, reducing scale of operations, improving efficiency, downsizing, outsourcing and such other strategies. The emphasis is on control of costs. In the Railway Budget speech on 6 July 2004, the Minister outlined his strategy: '...operating expenses will in no way be allowed to exceed the barest minimum required...cost effective use of assets will be ensured' (Yadav, 2004: 1). We assess the financial performance of the IR against several sub-strategies that make up this principal strategy.

Reviewing parts of business that are not value adding. The IR reviewed its catering and parcel service business and decided to lease it out. The Railway Minister stated '...by leasing out catering and parcel services we have reduced our catering and parcel losses of more than a thousand crores' (Yadav, 2007:13). Similarly, the IR attracted private investments under the wagon investment schemes and siding liberalisation scheme. This freed up resources for utilisation in more remunerative activities.

Efficiency improvements. The efficiency improvement brought by the IR can be evidenced from the diminishing operating ratio (ratio of total working expenses to gross revenue receipts), which was 98.8 percent in the year ending March 2001 and was brought down to 83.2 percent in 2006 and further to 78.7 percent by 2007. Prentice (2007) states operating ratio is a key indicator of railway financial performance. 'China Rail's 2006 operating ratio was 60.7 percent, compared with Canadian Pacific Railway's 75.4 percent. A lower operating ratio is better' (Prentice, 2007: 1). Thus, the IR's operating ratio is now comparable with that of other large rail networks in the world though it lags that of China by a considerable margin.

Table 3 (see appendix) shows, among others, the decline in the rate of growth in real working expenses. It should be observed that the slowing down in this rate was the sharpest during Mr Nitish Kumar's period as IR minister. The rate of growth of real working expenses in Mr Yadav's tenure has increased as compared to that of the rate of growth in Mr Nitish Kumarr's period.

The strategies used to improve gross revenue receipts - the denominator of the operating ratio — are elaborated in the next paragraph. As for the bringing down of working expenses —the numerator — it was achieved through measures such as the freeze on filling up vacancies, improving technical efficiency etc. (details are provided in subsequent paragraphs). To improve efficiency the IR adopted following strategies:

The IR took several initiatives at technology up-gradation and modernisation. These include (a) introduction of modern signalling and telecommunications technology in order to enhance safety, and enhancing line capacity (b) improving operating efficiency of freight transportation through the introduction of Freight Operating Information System (c) the complete computerisation of control office, Coaching Operations Information Systems and

interfacing of both these systems with the National Train Enquiry System so as to directly benefit passengers and other rail users (Yadav, 2006: 2). Increased use of technology resulted in improving technical efficiency in provision of services. In addition, the IR also focused on the sub-strategy capacity enhancement and ensured better capacity utilization. Through enhanced axle load and reduction in turnaround time of wagons by 14 percent, the IR increased wagon capacity available per day by 36 percent (KPMG, 2007: 4). This improved capacity enabled it to take advantage of the improved economic environment (see below). Due to the rapid uptake of technology the IR bagged IT Transformation Award 2006 of NASSCOM — India's peak IT industry association.

Downsizing. The number of employees, which peaked at 1.652 million in 1991, was brought down progressively to 1.472 million by 2003, and to 1.412 million by 2006. One of the elements of retrenchment strategy is to trim off excess staff. The approach that the IR adopted was not to fill in vacancies created due to retirement or other reasons. This approach commenced substantially during the term of Mr Nitish Kumar as the Railway Minister and has been continued by Mr Yadav though at a slower pace (see Table 2 in appendix). Again, downsizing as a strategy for reducing costs was initiated when Mr Nitish Kumar was the Railway Minister. Over the years the IR reduced the staff on payroll from about 1.58 million in 1999 to about 1.41 million by 2006, down 0.17 million or 10 percent. This resulted in the decline of overall expenditure by at least Rs 2,000 crores in 2006 (see Table 4 in appendix), compared to what it would have been had the staffing levels been comparable to those in 1999. In 1998, due to the impact of the Fifth Pay Commission the expenditure on staff and pension payments increased in real terms by almost 29 percent in just one year. It will be seen from Table 4 that the real growth rate in wage bill was significantly contained. during the period of Mr Nitish Kumar who was the Railway Minister in 1998-1999 and again in 2001-2004.

Outsourcing. Besides the catering and parcel service activity, the IR also outsourced advertising activity. 'In the other business areas of parcel, catering and advertising, the strategy of outsourcing through public private partnership and wholesaling rather than retailing was adopted' (Raghuram, 2007:10).

The evidence presented above in respect of sub-strategies such as the review of businesses that are not value adding, efficiency improvements, downsizing and outsourcing appears to provide support to proposition 1 that retrenchment strategy helped the IR to contain costs which ultimately helped its turnaround. There is no evidence, however, to suggest that sub-strategies like sale of assets, withdrawing from markets where the firm is performing poorly, and reducing scale of operations were used by the IR under the overall retrenchment strategy. In summary, this strategy was used only in a limited form and was most effective during the period of Mr Nitish Kumar as IR minister.

Repositioning (revenue raising initiatives)

This strategy includes several sub-strategies like focus on growth, product innovation, product differentiation, re-branding, and all these ultimately leading to capturing market share. As already stated in the literature review section, the focus of this strategy is on revenue generation as opposed to cost control. Various measures taken by the IR are outlined below.

Focus on growth. As stated above, the focus of policy change effected by the IR was on meeting the requirement of its customers. Railway customers are primarily of two types — those availing freight services and those availing passenger services. The two major sources

of revenue for the railways are then goods (freight) revenue and passenger revenue which respectively form about two-third and one-third of total railway revenue. The IR showed slow real growth under Mr Nitish Kumar and an impressive growth in freight revenue under Mr Yadav as can be seen from the rising growth rate after 2004 (see Table 5 in appendix). In passenger revenue, real growth rate was low during 2004 and negative in 2005 but picked up in 2006 and 2007.

There was a steep growth (double digit) in freight revenue after 2004. The turnaround of the IR was mainly freight revenue driven (though it was substantially helped by an improvement in external environment as discussed later). 'The essence of the turnaround was in fact that (i) total revenues increased by a significant percentage in the last two years and (ii) the net revenues continued a robust upward trend' (Raghuram, 2007:7). The increase in the freight revenue can be traced to three factors (i) increased axle load (ii) reduced wagon turnaround and (iii) market oriented tariffs and schemes. The first two managerial actions increased the IR's capacity to move higher volume of goods (see details given earlier) while the third action — market oriented tariffs and schemes — helped raise the per unit revenue from freight (see Table 6 B in appendix for supporting data).

The major reason for rise in freight revenue was higher loading volume (axle load) through existing wagons given that augmentation in the number of wagons takes time. In three years from 2004, the incremental loading achieved was about 170 million tonnes, which exceeded the total incremental loading of the 1990's by 120 percent. Freight earnings were increased through carrying increased tonnage by enhancement of loading limits from six tonnes to ten tonnes (Yadav, 2006:7).

To reduce wagon turnaround days, cash incentives were offered to freight customers to free up the wagons faster. Handling capacity of freight terminals was increased; strict control was maintained over idle wagon capacity through the use of Freight Operations Information System. To free up wagons users were encouraged to adopt round the clock loading and unloading of rakes at terminals. Through these measures, the IR was successful in reducing the wagon turnaround from seven to five days. Simultaneously, the connectivity to ports was increased to facilitate quick clearance of imported goods arrived at the ports and similarly to facilitate speedy export of goods. For effective transportation of perishable goods like milk and vegetables more refrigerated parcel vans were introduced. All these measures put together resulted in raising the percentage of average annual growth rate in freight volume from 2.34 (2001) to 7.90 (2006) and freight revenue from -2.65 (2001) to 12.89 (2006) and to 9.10 (2007) as can be seen from Table 6 (B) and Table 5 respectively. In volume terms there was some but not a substantial change in the rate of growth of goods traffic after Mr Yadav took over. This shows that the revenue generation under Mr Yadav was achieved mainly by appropriate pricing of freight on goods.

The IR adopted several market oriented tariff levying strategies. The tariff schedule for wagon use by customers was simplified and rationalised. Items in the schedule were reduced from some 8000 to less than 100. Classification of certain commodities from lower tariff to higher tariff band resulted in the increase in freight earnings. In addition, the upward revision in freight rates (shown in parenthesis) was as follows: coal (8 percent), iron ore (17 percent), cement (4 percent), limestone and dolomite (17 percent), and food grains (33 percent). As the Table 6 (B) shows the rate per net tonne km, which declined continuously in real terms from 63.12 paise per net tonne per km in 1998 to 49.08 (2004) was increased to 51.35 in 2006. However, this reflects monopoly elements some of which may not be sustained as

competition from the road hauliers increases with improvement in the quality of roads and in the purchase of vehicles with very large carrying capacity. However, the use of its competitive advantage in certain areas (monopoly power in some cases) demonstrates the change in strategic thinking of the IR management.

‘The increase in freight traffic and corresponding increase in goods earnings was largely due to enhanced loading of wagons over and above the carrying capacity by six tonne to ten tonne as well as upward revision of classification of certain commodities such as coal, iron ore, cement, limestone, dolomite and food grains, resulting in overall increase in freight rate’ (C&AG, 2007, p. 1).

The IR adopted two pronged strategy to improve passenger revenue: (a) competitive pricing and (b) substantial increase in passenger comfort and amenities. To arrest the dwindling market share in passenger market segment, the IR decided to maintain the level of nominal passenger tariff as is reflected in Table 6 (see appendix). Therefore, it continued the reduction in real tariff. The average rate per passenger km in nominal terms has remained around 24.50 paise³; while in real terms it has declined from 18.57 paise per passenger km in 2000 to 15.26 paise in 2006. The IR, however, improved various passenger amenities and introduced additional coaches in areas of high demand. Further, in response to burgeoning competition from new low cost aviation sector, the IR reduced fares for air-conditioned coaches in nominal terms.

A major concern of the railway passengers was about their safety. The IR took several measures as follows to address this issue. Yadav (2006) states that the IR created a Special Railway Safety Fund of Rs. 170 billion to improve safety environment, through replacement of over aged railway assets, that is, tracks, bridges, rolling stock, signalling gears etc. The number of accidents have been more than halved from 473 (2001) to 200 (2007). Use of high technology for passenger safety is also a hallmark of the IR success. In the area of train safety devices like Train Protection and Warning System and Anti-Collision Devices were introduced. Railway Protection Force was strengthened to escort passenger trains in security sensitive areas. Single window service to the customers for providing value added service was introduced. The combined effect of these measures was an increase in the volume of passengers by approx 29 percent over the period 2001 to 2007 (see Table 6 A). As Table 5 shows, the IR recorded significant increase in absolute amount of passenger revenue receipts. Passenger revenue receipts that were Rs. 105 billion (2001) rose to Rs. 172 billion (2007) - a rise of 64 percent in nominal terms. In real terms the increase was more modest from Rs 82 billion to Rs 102 billion at 1996 prices. But this still represented an increase of Rs 20 billion — arise of about 25 percent.

Product innovation. The IR introduced double stack container trains on diesel route between Pipavav port and Jaipur. These containers increased the carrying capacity of each train to 2,500 tonnes against 1,500 tonnes, and also reduced line capacity constraint by nearly half and ‘led to saving of about seven percent on capital cost and 25 percent in operating expense’ (Das, 2006:1). Similarly, as stated by the Railway Minister in his budget speech 2007-08, the IR enhanced the capacity of existing lines and made available wagons designed to suit the specific need of new cement, steel, and power plants. The IR also developed freight terminals with more than 15 wagons per month handling capacity which enabled the IR to expand its freight traffic. Further, it introduced new design of wagons with higher pay load (carrying capacity) but lower tare weight (weight of the empty wagon) that improved safety features. The effect of these measures can be seen in higher freight revenue.

³ 100 paise is equal to 1 rupee.

Product differentiation. Product differentiation can take many forms. These include differentiating in quality and price of the product from that of rival firms, differences in product design and features, differences in availability of product in terms of time and location etc. In order to compete in the passenger market segment, with other modes of transport viz., road, aviation, coastal shipping, the IR embarked on a program of improving passenger amenities (discussed earlier). To win over passengers the IR introduced e-ticketing through Internet from home which became very popular. Further, it introduced passenger coaches with new layouts that have significantly high capacity than previous coaches. It also brought about perceptible improvement in the passenger amenities. While the IR improved passenger amenities as stated by the RBI after March 2003 'passenger fares had remained unchanged' (RBI, 2005: 464).

Improving market share. The share of the IR in freight market was progressively declining for several years in a row. For the first time, the IR reversed this trend. As discussed earlier the annual freight growth rate increased substantially in 2004 and 2005. The IR 'achieved a growth rate of 7.67 percent in one year in freight loading... and regained some market share' (Yadav, 2005:4). The IR adopted several marketed oriented and customer friendly policies to attract business as detailed earlier. The IR adopted two pronged strategy to regain market share. Where it had competitive advantage it used economic principles by charging higher prices and where it faced tough competition, it lowered prices to regain market share.

The above evidence suggests that the IR pursued sub-strategies of focus on growth, product innovation and product differentiation for revenue rising. There is no evidence to suggest that the IR used other sub-strategies to boost revenue. The sub-strategy of focus on growth consisted principally of raising revenue through dynamic pricing approach for freight and passenger traffic. Efforts were also made for raising volume of freight and passenger traffic. Based on above evidence we are inclined to accept proposition 2 above that the repositioning strategy had positive impact on the IR turnaround. The success in significant revenue increase was achieved not only through managerial actions but environmental factors also contributed to this as discussed below under the relevant sub-head.

Reorganisation. This turnaround strategy consists of all strategies that are supporting the above two principal strategies for turnaround, that is, retrenchment and repositioning. This involves sub-strategies such as changes in planning systems, decentralising, human resources planning, organisational culture and such other related issues. In the Railway Budget speech on 6 July 2004, the Minister stated 'Indian Railways is committed tooptimum utilisation of human resources...' (Yadav, 2004:12). The IR took several steps in the direction.

Changes in planning systems. The IR introduced improved accounting and management information systems to provide financial, operating and management information needed to increase efficiency, meet emerging business needs and improve commercial orientation. It introduced Long-Range Decision-Support System and related systems for investment selection on the basis of expected returns (ADB, 2002:37). To cater to the rising passenger numbers which run into millions each day, the IR introduced state-of-art passenger reservation system. Similarly, the freight business was streamlined through the Freight Operating Information System and Enterprise Resource Planning (ERP) packages were implemented in workshops, production units and selected zonal railways.

Decentralising. The IR decentralised its organisational operations by creating more zonal centres. The number of zones was raised from nine in 2003 to 16 in 2005 which helped faster

decision making and provided better customer service. The CAGI (2006) states the IR decentralised procurement through the introduction of Vendor Management System which considerably raised vendor satisfaction due to the transparency, fair play and equal opportunity it provided –something that was missing in the earlier system.

Human resources initiatives. As fatigue enhances probability of accidents, several measures were initiated by the IR to improve working conditions of drivers and guards. Crew friendly driver's cabins and brake vans were designed. Another initiative was the establishment of International Railway Strategic Management Institute in 2005 under the aegis of International Union of Railways. It is a premier institute to serve the training needs of managerial staff. To increase participation of railway employees in management, regular dialogue with the officers and the staff federations through a specially constituted forum called 'Participation of Railway Employees in Management (PREM)' was established. The IR was also in the forefront of taking affirmative action. It ensured that adequate representation is given to disadvantaged sections of the society and to physically challenged people as required under the relevant legislations. Suitable sports facilities were also made available to the employees and the IR sports team won several laurels at national and international level. 'More effective use of manpower led to improvement in staff productivity. Multi-skilling of staff was emphasized. These strategies resulted in doubling of the staff productivity compared to the productivity in the 1990s' (Yadav, 2006:7). Revenue per staff witnessed a rise by 68 percent (2001-2006) as against 49 percent (1996-2001).

Changes in organisational culture. Probably the most significant cultural change witnessed by the IR in recent years is the philosophical change from politicised decision making to commercial, business oriented decision making. As already stated above, Mr Nitish Kumar while presenting his 2001-02-budget stated 'Railways need to develop market oriented and customer friendly outlook due to emerging competition within the transport sector' (Nitish Kumar, 2001: 8). The transformation of the IR to a customer-focussed organisation is remarkable. For example, the IR has responded to the enhanced competition from the aviation sector, with improved information for passengers through the creation of enquiry call centres and regular updating of current vacancy positions. Several customer friendly actions taken by the IR have been discussed earlier.

The above evidence appears to support proposition 3 that the reorganisation strategy helped the IR improve its overall organisational culture and employee participation leading to positive impact on turnaround.

It is obvious from the above discussion that the managerial strategies for turnaround (retrenchment, repositioning and reorganisation) did help the IR turnaround. In addition, several macro-economic environmental changes also contributed to its turnaround, principally among these was the general growth of the Indian economy. In paragraphs that follow, we describe how these factors impacted on the IR turnaround.

ENVIRONMENTAL FACTORS

Change in the macro-economic conditions. The general improvement in Indian macro-economic conditions helped the IR turnaround. 'This growth environment offered an opportunity for the IR and had a significant impact on the turnaround' (Raghuram, 2007: 10). As can be seen from Table 7 (see appendix), the average growth rate of the Indian economy in the years since Mr Yadav took over as Railway Minister was 8.5 percent — close to twice that recorded for the preceding four years. This heightened growth in the economy raised the demand for freight and passenger services which is reflected in the higher revenue earned by the IR as already indicated above.

Rise in demand. The rise in freight revenue - the main plank of the IR turnaround - was facilitated by the increased domestic demand for coal (for electricity generation), for cement (for construction) and pig iron (for steel plants) due to economic growth. There was also an increase in the iron ore for exports (mainly to the Chinese market). In 2006, China bought more than 74 million tonnes, accounting for about 84 percent of India's total iron ore exports (Sanyal, 2007: 1). The IR used the favourable international demand reflected in substantial increase in iron ore price by raising the freight on iron ore. As stated earlier freight on iron ore was raised by 17 percent.

Change in the legal position. One of the major changes that have impacted positively for the IR was the Supreme Court Ruling in November 2005 which banned overloading of road transport vehicles. According to the KPMG (2007: 7) this was a 'shot in the arm for the Railways as the road transporters traditionally over loaded 1.5 - 2 times the rated capacity on trucks'. The average road freight rate for transportation 'shot up by about 25 to 30 percent in the short run increasing the difference between road and rail freight cost' (Mathur, 2006:1). It shifted the freight business -more specifically of cement and steel - to the IR and is reflected in the sharp rise in freight revenue of the IR in the years 2006 and 2007. This played a part in the turnaround of the IR. This is likely to be a temporary advantage as road hauliers gear up with more efficient trucks in an era of improved roads.

Changes in the accounting practice. The IR made an important change to the accounting practice following from the international push for uniform accounting standards. Yadav (2005) states the IR have 'accordingly set in motion an accounting reforms process....'. Under the Government accounting system, the total amount of lease charges paid to the Indian Railway Finance Corporation (IRFC) for rolling stock leases by the IR was treated as operating expenditure. However, the charge consists of payments towards both interest and principal repayment components, which are in the nature of revenue and capital expenditure, respectively. To bring the IR accounting practice in line with Generally Accepted Accounting Principles for lease finance and to ensure that the true nature of the transaction is reflected in the accounts and the asset is recognised appropriately, from 2004, only the interest portion was debited to operating statement, the principal portion was capitalised. 'These changes in the accounting system have effected a reduction of Rs. 1,616 crores in the operating expenses (Yadav, 2006: 12). This accounting change raised the surplus and lowered the operating ratio. For example, the above change alone amounted to 26 percent of the surplus in 2006.

Impact of the Pay Commission. The major changes in the salary scales of Indian public service employees (including Railways) are determined by the Pay Commissions that are appointed by the GOI. The implementation of the Fifth Pay Commission in 1997, increased the total wage bill of the IR by 34 percent during 1997-98. This wage rise does not include the increase in pension costs. 'The share of pensions in working expenses rose from around 4.5 percent in 1980-81 to nearly 14 percent in 2003-04' (Malik, 2005: 2). By the time the present Railway Minister took over, the impact of this pay rise and pension liabilities had been absorbed by the system through increased redundancies. The adverse impact of Sixth Pay Commission will hit the IR in a couple of years' time.

Decline in the financial cost. The decline in overall interest rates and liberalisation and expansion of financial markets helped the IR to raise external resources with ease. Also the IR is required to pay only 6.5 percent dividend on the GOI investment in it, which naturally reduces the overall financial cost to the IR and puts it at an unfair advantage vis-à-vis the road sector which is required to borrow at commercial rates. Similarly, the finance that is raised from the market by the IRFC is available at a lower rate as compared to the prime

lending rate of State Bank of India (see below); because of GOI guarantee for such finance. Further, the bonds of IRFC are tax free so these can be offered at lowering interest rate which reduces the borrowing cost. The softening of interest rates in international markets also helped in lower interest cost. A combination of such favourable factors led to lower overall borrowing cost.

Taking advantage of the soft interest rates during 2003-04 judiciously,an overall weighted average cost of incremental borrowing at 5.59% for the year 2003-2004 andthe previous year weighted average cost of 7.00%, the overall weighted average cost of funds for the year worked out to 5.70% p.a'. (IRFC, 2004: 3)

As against this, the prime lending rate of State Bank of India was 10.25 percent in 2004. The softening of the international interest rate environment helped IRFC to raise larger amount of debt at lower cost. The global interest rate and credit availability has tightened in the aftermath of the US sub prime crisis which may raise the financing cost of the IR.

It can be seen from the above discussion that several environmental factors have made significant contribution to the turnaround of the IR. It will be incorrect, therefore, to ascribe the IR success to managerial leadership alone. The exact impact of contribution of some of these strategies to revenue or cost, however, could not be determined in the absence of data availability. The favourable impact of environmental factors supports the argument that 'good luck' also helped the IR turnaround.

Though the IR has showed a spectacular progress in its financial position, we are not convinced about the sustainability of the turnaround.

SUSTAINABILITY OF THE IR TURNAROUND

The reasons for our concern stem from the following:

Technical factors:

The increase in axle loading has created increased instances of stress on the rail track. Media reports state that

The East Coast Railway reported a 42 per cent increase in rail fractures, increased instances of wheel slipping and stalling, increase in 'sick detachment' (wagons needing repairs), and failure of important equipment in electric locos. The South Eastern Railway reported increased en route detachment due to wagon body bulging, stalling and wheel burns, and vulnerability of a large number of bridges. Southern Railway reported increase in spring failures and brake beam defects, and in overall sick marking. South Central Railway pointed out stalling of wagons carrying load above their capacity, and also increased rail and weld fractures. These were the very concerns experts had voiced when the railways decided to increase the axle load without any trials and without the requisite approval of then chief commissioner railway safety. (CCRS) G.P. Garg' (Vij-Aurora, 2007, p. 3)

Financial factors

If the above technical factors actually lead to deterioration in railway tracks then the IR would be required to invest considerable amount of money in renewal of the tracks. This will have adverse effect on the railway surplus in years to come.

Just as the implementation of the Fifth Pay Commission increased the pay and hence the operating expenses phenomenally, the Sixth Pay Commission is expected to have a similar impact on the IR operating expenses within the next few years. The technical factors as above may hamper the IR's ability to raise freight revenue further resulting in overall decline in surplus. With increasing number of staff retiring or close to retirement, the pension liabilities are likely to escalate and would need to be provided for. In the year 2005-06 (as per calculations made by C&AG) for example, the appropriation for pension was Rs 12.99 crores while the excess expenditure was Rs 3.07 crores (25 percent excess). Similarly the IR may be required to properly account for lease charges payable to the IRFC, interest on the IR fund balances and losses on strategic lines. This may affect the actual surplus of the IR. The rising of interest rates due to inflationary pressures and increase in risk premium in the international financial market due to the sub-prime crisis in the United States and its spill over effect would also adversely impact the IR cost of financing.

Macro-economic conditions:

The US sub-prime crisis will adversely impact US economic growth and hence on the demand for imports. This may reduce the growth of Indian exports both directly and indirectly. In addition the Indian Rupees is tending to appreciate against the US dollar and this may also have similar impact on Indian exports. Further, the suspension of iron ore exports would lead to decline in railway revenue as it is one of the major.

Though the impact of these factors is not quantifiable at this stage, nevertheless it is reasonable to conclude that the net operating surplus is likely to decline.

CONCLUSION

The kudos heaped on Mr Yadav by the international and domestic media were somewhat excessive. Both 'good management' and 'good luck' helped the Indian Railways turnaround from a low performing organisation to a high performing one in about five years. The foundation for the turnaround was laid during the tenure of Mr Nitish Kumar, which the present Railway Minister, Mr Yadav, implicitly accepted in his first budget speech. It goes to the credit of Mr Yadav that he not only continued those policies (though initiated by a rival political party member) but importantly ensured that they produced results. This demonstrates that the organisation moved away from past malaise of politicisation of decision making processes and policies, to a more corporate minded commercial focus. It adopted three major strategies for a turnaround. Through the retrenchment strategy it was successful in reducing the operating cost. It focussed on dynamic pricing and customer centric sub-strategy within the overall repositioning strategy to significantly increase revenue — in particular the freight revenue. Reorganisation strategies like human resource development initiatives and achievement of efficient outcomes through decentralisation of authority and responsibility aided the IR turnaround. But a substantial part of the IR turnaround can be attributed to favourable environmental factors. Though the impact of these factors is not quantifiable at this stage, nevertheless it is reasonable to conclude that the net operating surplus is likely to decline. The Indian Railways may need to explore some of the sub-strategies which they have not utilised so far (see appendix I below) which may help lift the surplus. The implication of our study is that an organisation's turnaround success needs to be put in a much wider context. It could be due to 'good luck' and not due to 'good management' alone as most of the extant literature tends to suggest.

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TABLE 1
Financial performance indicators of the Indian Railways

Year ending March	1996	1997	1998	1999	2000	2001
Surplus/deficit Rs crores	2870	2117	1535	1399	846	763
Operating ratio*	82.5	86.2	90.9	93.3	93.3	98.3
Net revenue to capital ratio*	14.9	11.7	8.9	5.8	6.9	2.5
Total dividend payment Rs crores	1264	1507	1489	1742	1890	308

* These two ratios are often used for financial performance assessment of the railway sector. Source: RBI Bulletin various

TABLE 2: Financial indicators of Indian Railways: year ending March

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Net Surplus after mandatory dividend (Rs crores)	2870	2117	1535	1399	846	763	1000	1115	1091	2074	6193	10628
Nominal <i>Real</i>	<i>2870</i>	<i>2024</i>	<i>1406</i>	<i>1209</i>	<i>708</i>	<i>596</i>	<i>754</i>	<i>813</i>	<i>755</i>	<i>1347</i>	<i>3852</i>	<i>6274</i>
Operating ratio	82.45	86.22	90.92	93.34	93.31	98.3	96.02	92.3	92.1	91	83.2	78.7
Net revenue to capital %	14.92	11.73	8.94	5.81	6.88	2.5	4.96	7.5	8	8.9	15.4	19.6
Total dividend payment Rs crores	1264	1507	1489	1742	1890	308	1337	2715	3087	3199	3287	3579
Number of staff '000	1587	1584	1579	1578	1577	1545	1511	1472	1442	1424	1412	NA
Systems length (Km)	62915	62725	62495	62809	62759	63028	63140	63122	63122	63465	63332	NA
Freight revenue Rs crores	15290	16668	19866	19960	22341	23305	24845	26505	27618	30778	36287	41716
Freight volume million tonnes	391	409	429	421	456	474	493	519	557	602	667	726
Passenger revenue Rs crores	6113	6616	7554	8527	9556	10,483	11196	12575	13298	14113	15126	17225
Passenger volume (million)	4018	4153	4398	4411	4585	4,833	5246	5126	5293	5573	5832	6240
Total revenue Rs crores	22813	24801	29134	30234	33856	36,011	39358	41856	43961	47320	54491	63220
Total wages Rs crores	9363	10514	14141	15611	16289	18841	19214	19915	20929	22553	23954	NA
NA= not available. Source: RBI monthly bulletins various issues. 2007 figures are revised estimates.												

TABLE 3
Total working expenses, gross revenue receipts and operating ratio of the Indian Railways

<i>Year ending March</i>	<i>Operating Ratio %</i>	<i>Nominal gross working expenses (Rs crores)⁴</i>	<i>Growth % working expenses</i>	<i>Real working exp (Rs crores)⁵</i>	<i>Real Growth %</i>	<i>Nominal gross revenue receipts (Rs crores)⁶</i>	<i>Growth % gross revenue</i>	<i>Real Gross Revenue</i>	<i>Real Growth %</i>
1996	82.5	18679	11.71	18679		22814	11.13	22814	
1997	86.2	21177	13.37	20245	8.38	24801	8.71	23709	3.93
1998	90.9	26110	23.29	23908	18.09	29134	17.47	26677	12.52
1999	93.3	28093	7.59	24279	1.55	30234	3.77	26130	-2.05
2000	93.3	31120	10.78	26044	7.27	33856	11.98	28333	8.43
2001	98.3	34667	11.40	27075	3.96	36011	6.37	28124	-0.74
2002	96	36293	4.69	27360	1.06	39358	9.29	29671	5.50
2003	92.3	38026	4.77	27722	1.32	41856	6.35	30514	2.84
2004	92.1	39482	3.83	27294	-1.54	43961	5.03	30390	-0.41
2005	91	42759	8.30	27775	1.76	47320	7.64	30738	1.14
2006	83.2	45574	6.58	28347	2.06	54491	15.03	33893	10.27
2007 (RE)	78.7	49655	8.96	29311	3.40	63220	16.02	37318	10.10

RE=revised estimates. Source: compiled from Reserve Bank of India Bulletin various issues. For WPI data: Office of Economic Adviser, Ministry of Commerce and Industry

⁴ Rounded to the nearest

⁵ Using Wholesale Price Index with 1995-96=100 (average of weeks), Accordingly, the index for 1996-97 was 105 and accordingly for years that follow it was: 109,116,119,128,133,137,145,154,161.

⁶ Rounded to the nearest.

TABLE 4
Expenditure on wages, growth rate and staff number of the Indian Railways

<i>Year ending March</i>	<i>Wage bill (nominal) Rs crores</i>	<i>Wage bill (real) Rs crores</i>	<i>Real growth rate %</i>	<i>Staff No ('000)</i>	<i>Nominal wage per staff per annum in Rs</i>	<i>Real wage per staff pa in Rs</i>	<i>Real growth rate %</i>
1996	9363	9363		1587	58,998	58998	
1997	10515	10052	7.36	1584	66,379	63457	7.56
1998	14141	12948	28.81	1579	89,556	82003	29.23
1999	15611	13492	4.20	1578	98,926	85497	4.26
2000	16289	13632	1.04	1577	103,289	86441	1.10
2001	18841	14715	7.94	1545	121,950	95242	10.18
2002	19214	14485	-1.56	1511	127,161	95863	0.65
2003	19912	14516	0.22	1472	135,290	98629	2.88
2004	20929	14468	-0.33	1442	145,138	100334	1.73
2005	22553	14650	1.25	1424	158,377	102877	2.53
2006	23954	14899	1.70	1412	169,645	105518	2.57
2007	NA		NA	NA	NA		NA

Source: Reserve Bank of India Bulletin various. NA=not available

TABLE 5
Passenger and freight revenue of the Indian Railways

<i>Year ending March</i>	<i>Freight revenue</i>				<i>Passenger revenue</i>			
	<i>Nominal</i>	<i>% Increase</i>	<i>Real</i>	<i>% increase</i>	<i>Nominal</i>	<i>% Increase</i>	<i>Real</i>	<i>% increase</i>
1996	15290	11.85	15290		6113	11.98	6113	
1997	16668	9.01	15934	4.21	6616	8.23	6325	3.46
1998	19866	19.19	18191	14.16	7554	14.18	6917	9.36
1999	19960	0.47	17250	-5.17	8527	12.88	7369	6.54
2000	22341	11.93	18697	8.39	9556	12.07	7997	8.52
2001	23305	4.31	18201	-2.65	10483	9.70	8187	2.37
2002	24845	6.61	18730	2.91	11196	6.80	8440	3.09
2003	26505	6.68	19323	3.16	12575	12.32	9167	8.61
2004	27618	4.20	19092	-1.19	13298	5.75	9193	0.28
2005	30778	11.44	19993	4.71	14112	6.12	9167	-0.28
2006	36287	17.90	22570	12.89	15126	7.19	9408	2.63
2007	41716	14.96	24625	9.10	17225	13.88	10168	8.07

Source: compiled from various financial performance audit reports on IR prepared by the Office of the Comptroller and Auditor General of India. R= revised estimates, BE= budget estimates — source: <http://www.indianrailways.gov.in/Budget-2007/budget0708.htm> accessed on 4 June 2007 and <http://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/77234.pdf> Accessed on 4 June 2007.

TABLE 6
Analysis of freight and passenger earnings of the Indian Railways

<i>A. Passenger Earnings</i>					
<i>Year ending March</i>	<i>Passenger earning in Rs crore</i>	<i>No of passengers in millions</i>	<i>Passenger kms in millions</i>	<i>Average rate per passenger kms in paise⁷</i>	<i>Real average rate per passenger kms in paise</i>
1996	6113	4018	341999	17.87	17.87
1997	6616	4153	357013	18.53	17.71
1998	7554	4398	379897	19.88	18.20
1999	8527	4411	403666	21.11	18.24
2000	9556	4585	430666	22.19	18.57
2001	10483	4833	457022	22.94	17.92
2002	11196	5246	494914	22.62	17.05
2003	12575	5126	516500	24.35	17.75
2004	13298	5293	542896	24.50	16.94
2005	14113	5573	576514	24.48	15.90
2006	15126	5832	616632	24.53	15.26
2007	17225	6240	NA	NA	NA

Source: Compiled from reports of the Comptroller and Auditor General of India for various years. NA=Not available

<i>B. Freight (Goods) Earnings</i>						
<i>Year ending March</i>	<i>Net tonne Kms million⁸</i>	<i>Earnings Rs in crores</i>	<i>Percentage of avg annual growth over previous years</i>		<i>Rate per net tonne per km in paise⁹</i>	
			<i>volume</i>	<i>earnings</i>	<i>Nominal</i>	<i>Real</i>
1996	270489	15290	8.38	13.9	55.35	55.35
1997	277567	16668	2.62	9.0	55.89	53.43
1998	284249	19866	2.41	19.18	68.93	63.12
1999	281513	19960	-0.01	0.005	69.89	60.40
2000	305201	22341	8.41	11.92	71.27	59.65
2001	312371	23305	2.34	4.31	74.60	58.26
2002	333228	24845	6.68	6.61	74.56	56.21
2003	353194	26505	5.99	6.68	75.04	54.71
2004	381241	27618	7.94	4.20	72.44	50.08
2005	407398	30778	6.86	11.44	75.55	49.08
2006	439596	36287	7.90	17.90	82.55	51.35
2007	NA	41716	NA	14.96	NA	NA

Source: Statistical Summary — Indian Railways Available at <http://www.indianrail.gov.in/summary06.htm> Union Audit Reports: Financial performance Audit 2005-2006 http://cag.nic.in/html/reports/railways/2007_6_peraud/contents.htm

⁷ Column 2 over column 4

⁸ Net tonne kilometres (NTKs) is the measure of the net weight of freight carried on a train (not including the weight of the wagons) multiplied by the number of kilometres travelled.

⁹ Column 3 over column 2

TABLE 7
Indian economy's annual growth rates of real GDP at factor cost

Year ending March	Annual Growth Rate of GDP percentage
1996	7.3
1997	7.8
1998	4.8
1999	6.5
2000	6.1
2001	4.4
2002	5.2
2003	3.8
2004	8.5
2005	7.5
2006	9
2007	9.2

Source: Economic Survey 2006-07, Table 1.6, Government of India and Ministry of Finance, Budget Papers 2007.

Appendix I

A	Strategy: Retrenchment	Action taken by IR	Cost/revenue/other impact
1	Quit difficult markets	Not used by IR	No impact
2	Reviewing non value adding business	Catering, parcel service leased out	Cost saving > Rs 1,000 crores
2	Deleting unprofitable product lines	Not used by IR	No impact
3	Selling assets	Not used by IR	No impact
4	Outsourcing	Advertising, (Catering, parcel service)/public-pvt partnership	improved efficiency
5	Raising efficiency/cost cutting	Technology improvements to raise efficiency in service delivery, reduction of wagon turnaround time,	Reduction in wagon turnaround time by 14%, rise in wagon capacity per day by 36%
		Down sizing	Staff reduced from 1.472 m to 1.412 m Cost saving > Rs 2,000 crores
B	Strategy: Repositioning		
1	Moving into new markets	Not used by IR	No impact
2	Seeking new sources of revenue	Not used by IR	No impact
3	Developing new products	Double stack containers introduced. Cargo handling capacity raised to 2500 tonnes from 1500 tonnes	Saving: 7% on capital cost , 25% op exp
4	product differentiation	e-ticketing, new passenger coaches	difficult to quantify
5	Altering the mission and image	Customer friendly actions	difficult to quantify
6	Focus on revenue growth		
	Freight revenue	enhanced loading 6 to 10 tonnes, cash incentive to free up wagons, port connectivity, more refrigerated vans, tariff revision	Freight revenue jumped from 233 m(2001) to 417 m(2007). Annual freight growth rate 1.4%(2002) to 7.67% (2005)
	Passenger revenue	Competitive pricing, avg rate per km retained, substantial increase in passenger comfort	Passenger rev rose from 105m (2001) to 172 m (2007)
			Combined impact : Op Ratio reduced From 98% to 78.7%

(continued over)

(Appendix I continued)

C Strategy: Reorganisation

1	Changes in planning system	ERP, FOIS, LRDSS etc	improved efficiency
2	Extent of decentralisation	Zones raised from 9(2003) to 16 (2005)	improved vendor satisfaction
3	Styles of HRM	IRSMI, PREM, Affirmative action	Productivity rose from 49%(1996-01) to 68% (2001-2006)
4	Organisation culture	philosophical change, market oriented, customer centric	business orientation

D Environmental factors

1	Economic	Growth of Indian economy, Chinese growth International debt market easing of rates	rise in demand Reduction in financial cost 5.70% for IR normal rate 10.25%
2	Regulatory	Supreme court ruling accounting reforms Pay Commission impact	shifted freight business to IR from road Rs 1616 crores reduction in op exp already absorbed by system
3	Socio-political	Growing confidence and rise in enterprising culture	difficult to quantify

E Organisational turnaround

Operating ratio	controlled/reduced costs and raised revenue	Reduced from 98(2001) to 78 (2007)
Net revenue to capital ratio	raised revenue with better utilisation of capital	Raised from 2.5 (2001) to 19.6 (2007)
Net surplus Rs crores	controlled/reduced costs and raised revenue	Raised from 763 (2001) to 10628 (2007)
Dividend payment Rs crores	raised	Raised from 308 (2001) to 3579 (2007)
Mr Yadav's claim	$E = f(A, B, C)$	
Our Claim	$E = f(A, B, C, D)$	

FIGURE 1

Conceptual framework of public sector turnaround

