Challenges Facing By IRFC & Railtel of Indian Railways

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Abstract

Railway projects suffer from chronic shortage of funds, as available funds are spread thinly over a large shelf of projects. Time and cost-over runs adversely affect the viability of projects. Efficient execution of projects within time and budget is, therefore, an urgent necessity. There are managerial and organizational issues that need to be addressed to fast-track project execution and meet the challenges of massive capacity creation within a short period of 10 years.

Key Challenges of Indian Railways:

Capacity Constraints:-

The growth in Railway's freight and passenger traffic in recent years has highlighted a number of systemic constraints in railway operations. Foremost among these is capacity constraints on most of the high-density routes of the railways. The trunk routes of the railways comprising merely 16% of the network carry more than 50% of the traffic. These routes, on most of the stretches, have already reached over-saturated levels of capacity utilization. To manage a system reliably, capacity utilization must not exceed 80% and planning must ensure that capacity augmentation by way of doubling/quadrupling and other traffic facility works takes place well before saturation sets in.

Reliability of Assets:-

A lot of effort in recent years has gone into improving asset reliability by use of upgraded track structure, better maintenance practices and improvement in locomotive as well as signal technology. However, on a saturated network the impact of an asset failure on operation is often severe. Use of shared tracks by both freight and passenger traffic, speed differential between passenger and freight trains and the precedence accorded to passenger trains exacerbate the effect. As a consequence neither the freight nor the passenger services run optimally. Freight services, in particular, suffer the most. Investment in technological tools and managerial systems that ensure reliability of assets is, therefore, a major challenge, if Indian Railways is to achieve high growth by offering superior services.

Safety:-

Safety performance of Indian Railways measured in terms of number of consequential train accidents (accidents with serious repercussions in terms of loss of human life or injury or damage to railway property or interruption to railway traffic beyond the defined threshold level). These include collision, derailment, fire in trains, accident of road vehicles with trains at level crossings and other specified types of miscellaneous train mishaps or accidents. Accidents per million train-kilometers have been steadily improving as illustrated by the following table:

Table: Train accidents on Indian Railways

Year	Collision	Derailment	L-Xing accidents	Fire in train	Total	Incidence o accidents p million train
1960-61	130	1415	181	405	2131	5.50
1970-71	59	648	121	12	840	1.80
1980-81	69	825	90	29	1013	2.00
1990-91	41	446	36	9	532	0.86
2000-01	20	350	84	17	473	0.65
2001-02	30	280	88	9	415	0.55
2002-03	16	218	96	14	351	0.44
2003-04	9	202	95	14	325	0.41
2004-05	13	138	70	10	234	0.29
2005-06	9	131	75	15	234	0.28
2006-07	8	96	79	4	195	0.22
2007-08	8	100	77	5	194	0.21
2008-09	13	85	69	3	177	0.20
2009-10	9	80	70	2	4	165	0.17
2010-11	**5**	**78**	**53**	**2**	**1**	**139**	**0.14**

Note: *The total also includes accidents under the miscellaneous category apart from the four categories shown in the table.*

Source: Annual Reports of Indian Railways

Remarkably, the improvement is even more marked in respect of the more serious types of accidents like collision and fire in trains. However, notwithstanding the steady trend of improvement, a number of significant challenges still remain. Interruption to traffic due to accidents is a cause of concern. A large number of derailments, as well as failure of railway staff as a major contributor cause of accidents, show that considerable room for improvement exists.

Table-: Traffic disrupted or Train movement disrupted/halted/affected lost due to accidents

Year	Interruption to through communication (in hours)
2003-04	2806
2004-05	1692
2005-06	1904
2006-07	1148
2007-08	4381

In the year 2007-08, 84 of 194 accidents were caused by failure of railway staff (43 % of the total), and 100 of these accidents (52% of total) were derailments. This is typical and representative of the pattern for a number of years. A lot more work needs to be done by way of technological up gradation, HR interventions of right recruitment, promotion, training and motivation of employees before preventable accidents are eliminated from the Railways. Ongoing initiatives like manning of busier level-crossings and pre-warning and education of roadusers at unmanned level crossings need to be scaled up to minimize mishaps at level-crossings. Safety is a challenge but a close -to -zero accident goal is attainable. This issue has to be addressed with proper planning and determination.

Slow Speeds:-

The speed of freight trains on IR has stagnated at around 25 kmph for a long time. Passenger services are also slow by international standards. The maximum permissible speed on Indian Railways is 130 kmph for Rajdhani/Shatabdi trains and 110 kmph for other mail/express trains, compared to a maximum permissible speed of 200 kmph on several European Railways on conventional networks and more than 300

kmph on high speed corridors in Europe and Japan. Chinese Railways are presently engaged in construction of 12, 000 kms of dedicated passenger corridors with speeds of 250-350 kmph.Currently, eastern and western routes of dedicated freight corridors (DFCs) totaling 3400 kms from JNPT (Mumbai) to Delhi and Ludhiana to Dankuni have been sanctioned. Pre-feasibility studies for other dedicated freight corridors for North-South (Delhi to Chennai), East-West (Howrah to Mumbai), Southern (Chennai to Goa) and East-Coast (Kharagpur to Vijaywada) have also been carried out. The DFCs are being planned with high axle-load and modern technology. These would provide the opportunity to achieve substantial segregation of freight and passenger traffic on the trunk routes and improve the speed and reliability of both services. The key challenge is to find and devote adequate financial and human resources to execute these projects in time.

Segregation of freight and passenger services, creation of adequate capacity and raising of speeds of both services would be a key challenge if Indian Railways are to retain their market share and improve upon it.

Door-to-door handicap: partnership with private players:-

Railway's inability to provide door-to-door service and transport of small volumes is a handicap. This can be overcome by forging partnership with logistics providers and establishing presence in large logistics hubs serviced by the Railways. Similarly, close attention to the totality of passenger services including use of information and technology to provide information and assistance in terms of other value-added services such as booking of taxies and hotel services prior to and after the railway journey would enhance attractiveness of the Railways.

Project Execution:-

Railway projects suffer from chronic shortage of funds, as available funds are spread thinly over a large shelf of projects. Time and cost-over runs adversely affect the viability of projects. Efficient execution of projects within time and budget is, therefore, an urgent necessity. There are managerial and organizational issues that need to be addressed to fast-track project execution and meet the challenges of massive capacity creation within a short period of 10 years.

A list of the ongoing Railway projects is shown at Annexure-I. As can be seen, the shelf of ongoing projects is huge and Railways would require resources of the order of more than 1,43,000 crore to merely complete the projects on hand. (For a summary of the information, see Table 5 below).

Table-5: Shelf of Infrastructure Projects

Category	Number of works in progress	Length in Kms	Cost in Rs. Crores (as per sanctioned cost)
New lines	109	11985	50405
Gauge conversion	51	7380	17309
Doubling	126	4822	11748
Electrification	21	3201	2766
DFC project	2	3289	50,000
MTP	7		10,912
Total	316		143,140

It is also to be noted that most of the New lines and Gauge conversion projects come under the economically unviable, but socially desirable category. An amount of

around Rs. 57,000 crore at sanctioned cost (Rs. 80,000 crore approximately at updated cost) would be required to complete the pending backlog of these projects alone.

The Railways face unrelenting pressure to take up more such Projects. In fact, as per records available, there are 428 new line and gauge conversion proposals for which Surveys have been carried out at some time or other in the past but have not been considered. In addition, there are 70 doubling proposals for which surveys have been completed (see Annexure-1 A). A very tentative assessment indicates that if these projects were to be taken up, it would add Rs 4,21,546 crore to the value of the pending shelf of projects.

7.3.3. New line projects:-

Execution of new line projects presents a unique set of challenges. Of the 109 new line projects already sanctioned and taken on hand, 8 are national projects (which enjoy assured funding) and 12 are financially viable. Others have been sanctioned on socio-economic grounds. Railways face insurmountable pressures to add more such projects each year, but are unable to earmark more than Rs.1500 crores per annum for these projects. Needless to say, the amount is barely sufficient to neutralize the annual escalation in cost. At this rate, the projects would languish forever. A solution has to be found to ensure funding of these projects. Possible solutions would include:

- Projects in which state governments are willing to share more than 50% could be allocated assured funding by Railways and completed in a time-bound manner.
- A non-lapsable dedicated fund could be set up outside the normal railway budget for construction of lines sanctioned on socio-economic considerations, so that all the projects could be completed by 2020.

Indian Railways has to expand its network at a fast pace to connect the far-flung areas of the country, especially the hill states, the states in the North-East and areas, un-connected or inadequately connected to the Railways network. This is necessary to bring them into the national mainstream of development. Without a well-thoughtout plan to clear the backlog and find funding for the massive expansion needed, Railways will not be able to meet this expectation.

Indian Railways has been adopting international best practices in various facets of railway infrastructure construction and induction, maintenance and operation, albeit with a time lag. A conscious policy to close the gap with the developed railway systems and compress the technology adoption and adaptation cycle on a continuous basis with a view to achieving steady improvement in cost of operations and quality of services needs to be evolved.

There are ongoing plans to improve payload to tare ratio of freight wagons by use of lighter-weight materials like stainless steel and aluminum so that net payload per wagon increases. Simultaneously, there are also plans to make feeder routes of dedicated freight corridors and other identified routes on the network fit for 25 tonne axle load. These measures would improve the load per train from the existing level of less than 5000 tonnes to 6000 tonnes in future. Popular passenger services in high demand are also being augmented to 24 coaches after building requisite facilities at passenger platforms and terminals en route. These measures will provide useful quick-fix solutions in the short and medium term till adequate capacity is built up to match the requirement in the long run.

Optimal use of maximum moving dimensions (width and height dimensions can be used to design larger-sized wagons and coaches) is another important area. This would require a systematic study of the "kinematic profile" of Indian Railways and adoption of the best of the know-how available so that with minimum investment on infrastructure, maximum usable dimensions in terms of double-decker coaches or optimally designed wagons can be pressed into service.

There is a need to closely monitor these measures with regard to timelines and full realization of their potential.

Challenges for freight services-

Quality of service:-

In recent years, there have been attempts to adopt flexible tariffs to smooth out seasonal imbalances, utilize empty-flow directions and incentivise loyalty of customers. However, major tasks that still remain are development of special-purpose rolling-stock to suit specific needs of the customers and the ability to promise and deliver time-sensitive cargo in time. At present Railways are neither geared to meet pre-registered requirements of customers for specified pick-up and delivery schedules nor those of guaranteed transit times.

This issue is closely related to carrying capacity and reliability of the system. There is also an issue of marketing and mindset to develop closer market linkages with customers so that products are tailored to meet their specific needs. Also pertinent is the fact that although, there is generally no shortage, occasional peaking of demand and mismatch in rolling stock procurement programmes have at times exposed the Railways to the risk of losing customer loyalty. These issues need to be resolved through close linkages with customers and evolving responsive market-driven systems for procurement of rolling-stock and operational management.

Connectivity Issues:-

As the dynamics of manufacturing, distribution and logistics change, the transport landscape would throw up newer challenges. Ports, private mining blocks and third party logistics providers are already emerging as major transport generators. Ability to establish IR's presence and linkages to these customers and service their needs would be crucial in the future. A clear-cut and workable policy on connectivity to railway's network in partnership with the entities concerned, wherever necessary and feasible, would be needed.

Railway's ability to improve the logistics and supply- chain efficiency of freight customers will be the prime determinant of success.

7.4.1. Deterioration finances and lacks the funds for future investment:-

Mr Lalu Prasad Yadav is a wily and disarming politician and has confounded his critics by becoming one of the country's most successful railway ministers. And he has not forgotten his cows. “If you don't milk your cow fully it falls sick, and if the cow falls sick the farmer goes sick,” he says to explain his solutions to the problems of the world's second largest railway network. With more than 1.4m employees and 63,000km (40,000 miles) of track, the railways still help bind India together, but they have suffered from deteriorating finances and lack the funds for future investment.

Rather than raise fares as he was urged to do by various reports and pundits, Mr Yadav has opted for volume-boosting and cost-cutting measures that have made diehard

officials in the stuffy Railways Board shudder. He increased load limits for the system's 220,000 freight wagons by 11%, legalising something that was already happening. He has boosted the railways' earnings by 72 billion rupees ($1.6 billion) in the current year. Of this, 60 billion rupees came from speeding up turn-round times. These measures have added some 24% to freight revenues—and freight provides 70% of the railways' earnings.

Mr Yadav has also speeded up train inspections, varied a train's number of passenger coaches according to demand (they used to have standard lengths), and introduced an upgrade system to fill vacant upper-class seats (a well-known source of bribes). Companies are being allowed to run their own container trains. The first tranche of an 11,000km freight corridor linking India's biggest cities has recently been approved.

But why has Mr Yadav tried so unexpectedly hard? Simple. As he openly admits, he wants to be prime minister. His corruption charges might appear to be something of a stumbling block, but he is more concerned that his “credibility has improved”. It might seem a very long shot. But, given the fractious nature of India's coalition politics, the low-caste populist from India's roughest state cannot be ruled out as a compromise candidate if things get complicated after a future general election.

Conclusion

There are so many challenges faced by these companies of Indian Railways. . Several accidents are taken place due to unmanned crossings that can also be solved by these two organizations. The other problem such as garbage can be solved by the Indian Railways by using garbage management system like foreign countries. Thus, the future of these two concerns are very bright.

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