

# Railway One

## Context

Your client is Railway One, a railroad operator monopoly in a developing country, providing domestic transportation for both passengers and cargo. The company used to be quite a prosperous player and was actively involved in nationwide transportation. As the country is rather large, Railway One acted as a vital link between cities and settlements. And as the demand for transportation was very high, the company was able to grow without much effort. In the last decade, however, the situation has changed a lot. Railway One's revenues have started to decline at a rapid pace, especially in passenger transportation. At the same time, the overall mobility of the population has grown strongly, thus underpinning the development of the transportation industry as a whole, despite the volatile economic situation.

Railway One's CEO has engaged your team to understand the root causes of its revenue decline and to make recommendations on how to reverse it.

## Question 1

What might the main causes of the revenue decline in passenger transportation be?

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## ANSWER

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**An answer may contain the following factors:**

### *Number of railway passenger tickets sold*

- Overall passenger volumes and trends (for all kinds of transport), broken down by domestic and international transportation: *according to the input data, the overall market is on the rise but growth may be largely due to international transportation where the client is not represented*
- Share of people willing and able to use railway transportation, and change over time;

- Frequency of railway trips and change over time.

### ***Average price of railway passenger ticket***

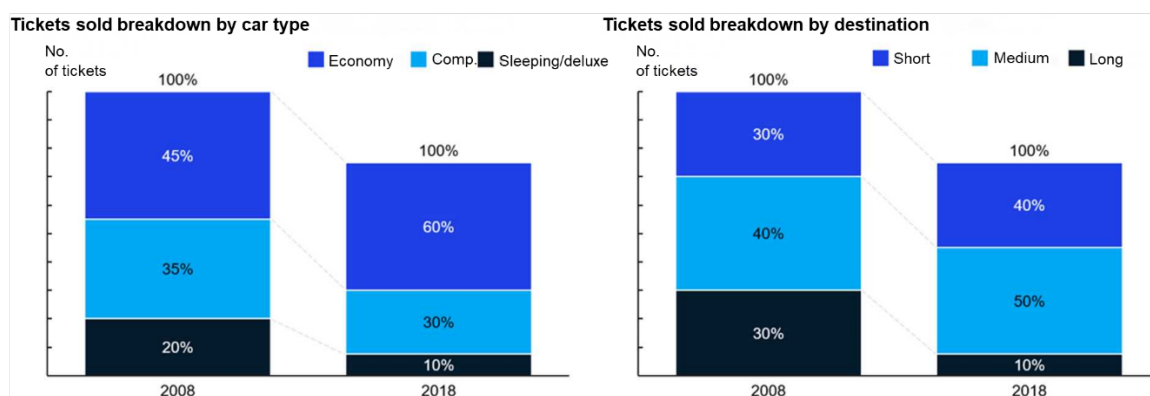
- Breakdown of tickets sold by class of service (economy, compartment, sleeping car, deluxe)
- Breakdown of tickets sold by train category (common, branded)
- Breakdown of tickets sold by destination (cheaper destinations – e.g., short-distance; more expensive destinations – e.g., long-distance)
- Breakdown of tickets sold by departure time (weekday or weekend, time of day – morning, afternoon, evening)
- Share of no-refund tickets, subsidized tickets

### ***Non-ticket element of railway fare***

- Cost of value-added services (bed linen, tea, coffee, souvenirs, etc.)

## **Question 2**

The team has received information from the client on its revenue breakdown for each of the last 10 years. What changes can you observe and what factors could have driven these changes? The client has also stressed it is important for him to understand the structural factors behind these changes, i.e., their root causes (what specifically could have happened to consumers, competitors, or to the client itself to produce these results?)



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## ANSWER

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### **Some observations that you might come up with could include:**

- Over the decade, the number of tickets sold declined by 25%. Given the growing transportation market, this may provide proof of the previously outlined hypotheses on potential new alternative transportation providers (primarily air transportation) and the potential decline in domestic transportation volumes against the backdrop of growing international travel
- In the tickets sold breakdown by car category, the economy share grew by 15 p.p. (from 45% to 60%), whereas the share of higher service classes (compartment, sleeping car and deluxe) declined. This could be connected with a drop in real disposable incomes, e.g., as a result of a domestic economic crisis
- In the tickets sold breakdown by destination, the share of long-distance tickets dropped by three times (from 30% to 10%). This could be connected with the fact that railway transportation is less competitive than air in the long-distance market because of the huge differences in travel time. The growing share of the economy class in the tickets sold structure may also be connected with unfavorable pricing vs. competitors (current compartment, sleeping car and deluxe fares are relatively high, so passengers prefer air tickets offering shorter travel times at a comparable cost)
- The declining share of long-distance tickets may also be connected with changes in the public mobility structure. For example, when the market was predominantly domestic, people used to go on vacation to just a few cities located far from the main transport hubs. These destinations may have gradually declined as international transportation started to grow rapidly, thereby exposing the public to more attractive vacation destinations abroad

## Question 3

The team has presented the client with its current view on the main factors behind the revenue decline. The client has asked for a list of quick wins and longer-range measures to reverse the trend

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## ANSWER

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**An answer could include the following ideas:**

- Dynamic pricing which, among other things, factors in competing offerings
- Introduce special economy tariffs (similar to low-cost air carriers)
- Introduce family tariffs
- Revise the route grid (introduce international destinations), departure days and times, stops
- Revise car types (e.g. cars for passengers with children, for passengers with pets)
- Launch promotion campaigns aimed at demonstrating the comfort of railway transportation as compared to air travel (e.g., sleeping berths) and the unique travel experience (e.g., views of nature)
- Create own website and mobile app
- Sell value-added services (e.g., Wi-Fi access, movie and music streaming, etc. during travel; taxi, hotel reservations, etc. before and after travel)
- Launch own loyalty program

## Question 4

The client believes that a revision of the route grid will produce the largest impact. He wants to test this hypothesis on 2 pilot routes, A and B. The client is prepared to allocate a few standard trains of 15 and 10 cars, respectively, to each of these routes. According to the client's estimates, the average fare on route A will be USD 50, that on route B, USD 30. The Route A margin level will be 5% above Railway One's current average margin, while the route

B margin level will be the same as the grid average margin. Margin level is the percentage ratio of the margin to your account equity

- No. of runs per 1 train per week: Route A – 2 runs a week every week, Route B – 6 runs a week, every other week
- No. of seats per car – 50
- % occupancy rate: Route A – 70%, Route B – 60%
- Average grid margin – 15%

The client has asked:

- What is the weekly profitability for each route?
- What would the final recommendation be?

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## ANSWER

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Weekly route profitability = No. of runs per week × No. of cars per train × No. of seats per car × % occupancy rate × Fare × % margin

Route A weekly profitability =  $2 \times 15 \times 50 \times 70\% \times \text{USD } 50 \times 20\% = \text{USD } 10,500$

Route B weekly profitability =  $6 \times 10 \times 50 \times 60\% \times \text{USD } 30 \times 15\% / 2 = \text{USD } 4,050$

### *Sensitivity analysis and next steps*

- This analysis relies to a considerable extent on assumptions regarding the number of runs, cars, and occupancy rates, which are determined solely by consumer demand. The client should consider different consumer demand scenarios and prepare a detailed action plan aimed at achieving the target demand level
- The analysis also relies heavily on margin level assumptions (Route A margins are above grid average). This assumption may, in turn, be based either on the assumption that the route fare will be above the grid average (i.e., the route will be in higher demand than other routes), or on the assumption that the route costs will be below the grid average i.e., the route will feature lower labor and fuel costs, etc.)