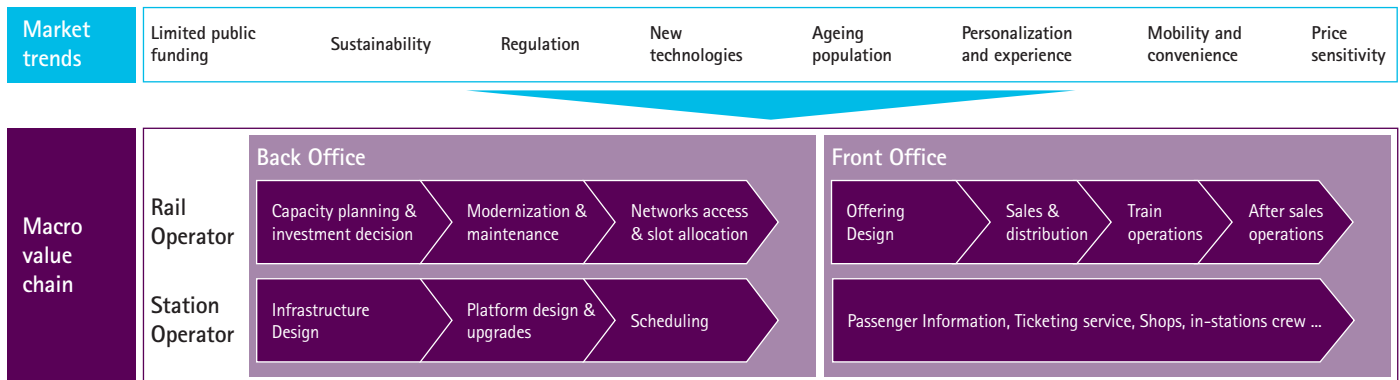accenture

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Rail 2020

Executive Summary

Trends like regulation, sustainability, demographics (growing traffic and ageing population), economics (limited public funding and price sensitivity), mobility and IT innovations are impacting the rail industry, particularly in the European marketplace. As a result, every aspect of the value chain—from passenger service to the back-end organization—is changing.

While operational excellence remains crucial, redefining the client needs and services is key for creating competitive differentiation. Also, other industries like retail, banking and airlines can provide innovative examples that railways could copy.

1. Drivers impacting the rail industry

Market trends	Limited public funding	Sustainability	Regulation	New technologies	Ageing population	Personalization and experience	Mobility and convenience	Price sensitivity

Macro value chain

Rail Operator

Back Office

Capacity planning & investment decision → Modernization & maintenance → Networks access & slot allocation

Station Operator

Infrastructure Design → Platform design & upgrades → Scheduling

Front Office

Offering Design → Sales & distribution → Train operations → After sales operations

Passenger Information, Ticketing service, Shops, in-stations crew …

For several years, Europe has been on the path of liberalization. While the most deregulated European markets like the UK are offering the best conditions for new entrants, others like France are lagging. In the UK, for instance, independent regulators are defining preconditions for non-discriminatory access to infrastructure and the level of fees to be charged for issuing licenses and safety certificates. In Great Britain, there are no fees, compared with around 5,000 Euros in Germany.

To stay competitive, one way to differentiate is redefining customer services with numerous possibilities from a "no-frills" model, to passenger experience enhancement. While the "no-frills" model refers to an extreme low-cost model (low fares without non-essential services and typically low overhead), passenger experience enhancement means providing travel that enables the customer to have a sense of lifestyle instead of inhibiting it. One example is to provide on-board amenities like wireless Internet and other business services to draw car and air travelers. In 2010, a record number of train operators issued RFPs for on-train and in-station broadband systems—and those numbers will only grow as providers look to enhance the on-train experience.

From a sustainable perspective, rail should emphasize its total carbon footprint. The industry offers a clear competitive advantage compared with other means of transport when it comes to meeting the EU's stringent emissions targets. Out of 25 percent of CO_2 emissions coming from transport, rail only accounts for 0.6 percent.

Population forecasted growth by 2050 in EU-27 is much lower than the forecasted passenger transport volume (+12 percent by 2020 all modes). With sustainability concerns high on the agenda, rail transportation is likely to take a large share of this demand. Elderly people will account for an increased share of the population. This demographic has different transportation needs such as support and transfer facilities.

Financial crisis and high unemployment rates in many European countries have put even more pressure on passengers' wallets. Price sensitivity has increased and promotions along with low-cost options are becoming standard. Besides, in a liberalization context, this should encourage the blooming of low cost railways as in the Airline industry in the 2010s.

Besides, railways are more and more forced to look for additional financial sources in an environment of scarce public funding: national stimuli packages have helped but EU funding is crucial moving forward. Public Private Partnerships (PPPs) are growing and could play a major role in the development or Trans-European networks, R&D and with the ageing infrastructure.

Today's consumer requires speed, mobility along with better information. Organizations should consider strategies related to real-time information sharing and interconnectedness to other forms of transportation. Time is the new currency, so total traveling time rather than distance is the decisive factor for consumers. Travel time needs to be minimized.

That will create a continued demand for high-speed rail. It will also necessitate better interconnectedness between rail stations with other means of transport (urban public network, conventional rail network, airlines, car drivers, etc.). How big an impact does speed have? If commuting time was reduced by 20 minutes from Birmingham to Leeds and to Manchester, research has suggested that travel could increase 40 percent (The Times - Monday 25, July 2011).

The future rail industry will rely upon smarter transportation systems that leverage technologies. A relevant example is mobile ticketing. According to Juniper Research, by 2015 half a billion people will be using mobile ticketing for public transport, including train and metro services, being five times higher than the current use. Everywhere is also a good illustration with 2010 being a record year in the number of train operators issuing RFPs for on-train and in-station broadband system.

2. Envisioning Rail 2020 industry

While those mega trends should impact on the Rail industry's rules of the game, Rail players should consider some areas of innovation to be part of the new game.
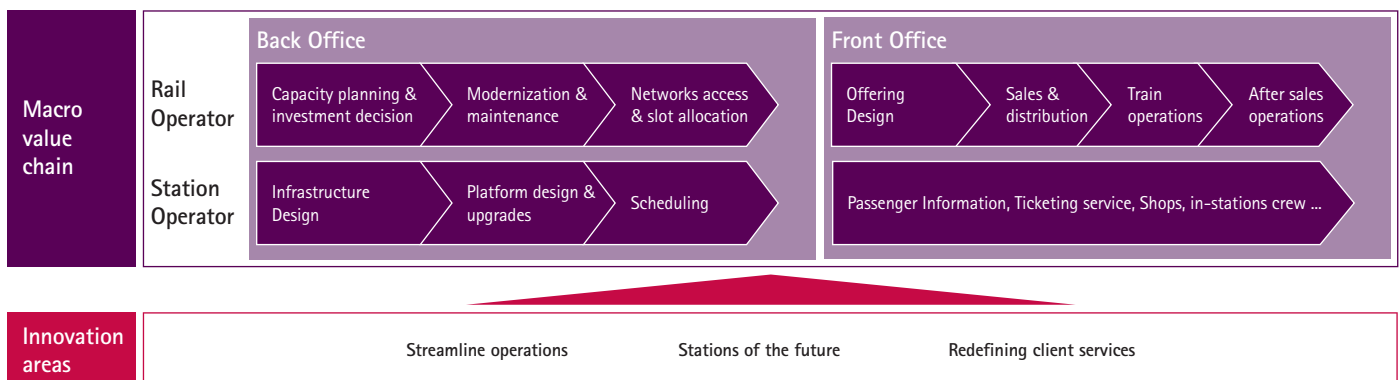
Streamline operations

Asset Optimization

Companies can lease carriage and wagon equipment rather than purchasing them. They could also create a rolling stock asset pool available for leasing. This operating model can be used to manage fluctuations in demand and provides an answer to rolling stock obsolescence. In the airline industry, more than 50 percent of the global commercial fleet is leased. This helps free working capital and also allows better

asset utilization, giving greater operational flexibility. This model is already a reality in the rail freight industry.

Maintenance could be outsourced to other players in order to free up capital. Operators can choose to run maintenance as a separate business and provide services to their competitors, generating additional revenue and increasing asset utilization. Almost three quarters of all engine and component MRO and more than half of airframe work is outsourced. Lufthansa Technik and ST

Macro value chain		Back Office			Front Office			
	Rail Operator	Capacity planning & investment decision	Modernization & maintenance	Networks access & slot allocation	Offering Design	Sales & distribution	Train operations	After sales operations
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Innovation areas		Streamline operations		Stations of the future		Redefining client services		

Aerospace of Singapore Airlines are the top two airline MROs in a market worth $60 billion. Rail operators could decide to reinforce their capabilities around maintenance.

To increase overall profitability for stations, rail operators should seek new streams of revenues as well as adopt a franchisee model. Airports in developed markets typically generate 45-55 percent of revenues from non-aero sources like retail, facility management, marketing airport infrastructure, IT and communications (digital signage, mobile etc), cargo handling (warehousing revenues), aircraft maintenance (property rental revenues, etc) . Those extra revenue streams could be handled directly or through a franchisee model.

Crew and fleet Management

In an open, deregulated market, rail operators will face new challenges to ensure a better match between resources (crew and fleet) and real demand. They will also need to ensure best in class consumer service to stay ahead of competition.

Resource smoothing will become a strategic capability for rail operators, as it is for most airlines today. Airlines operating in liberal labor markets opt for contract labor to take care of peak load based on seasonal demand patterns. Swiss Air and most of the U.S carriers have adopted this policy to cater to seasonal flight patterns thus reducing HR overhead costs. This is mainly used for support staff at airports. Airlines also use high-end business intelligence and forecasting software. Studying historical patterns by matching flights to seasons and other parameters, operators can determine the optimum crew and support staff requirements.

To better coincide with demand patterns, railways, like airlines, can leverage leasing more heavily. Airlines lease at peak season or to operate specific seasonal routes reducing the need to own aircraft and increasing utilization overall. They also opt for "wet lease" arrangements where they lease aircraft along with crew, and return them back after the lease period. This reduces recurring operating expense items on the balance sheet.

Railways will also need to improve on-board customer service to reinforce loyalty and differentiate from competition. Crew training and a depth of customer knowledge will be instrumental in achieving this. To enable its in-flight crew members, British Airways has announced it is testing iPads to enhance customer service. The iPads equip cabin crew members with a bevy of information on travelers, including their location on the plane, Executive Club status, previous travel arrangements, flight companions, special meal requests and other preferences.

Stations of the Future

Stations are the neuralgic center of rail operations from a customer standpoint. Most of today's mega trends will impact how stations will look tomorrow. Sustainability is one example. Technologies like biometrics, digital interactive signage and kiosks will also leave their mark.

Reducing carbon footprint through clean energy or energy re-use is already on the agenda of some operators in Asia and in the Nordics. The Nanjing South Railway and the Shanghai Hongqiao Railway are both piloting the use of solar energy to reduce their emissions, either by contracting with clean energy providers or by integrating solar roofs in the building's awnings. Also, traffic can provide energy for buildings. At Stockholm Central Station, body heat is harvested from daily human traffic and provides about 25 percent of the heating for a nearby office building.

Increased passenger traffic in stations can be a growing source of security concern for authorities. More than 180 million passengers pass through Gare du Nord, one of the busiest stations in Europe, every year. In Shinjuku in Japan, that number is 3 million per day. Although stations like these are busier than some airports (Atlanta is the busiest airport in the world with 90 million passengers per year), they have not yet faced the same security issues. This could change in the future and biometric technology could change the way security is handled. For example it could be used to enter stations and trains. Biometric identification can increase the security of stations and bring it to the same level of airports.

Since passengers expect more information and convenience, stations will need to meet their demands. Digital interactive signage could be installed in stations, enabling passengers to use a touch screen to get travel information, select and purchase an item, choose a hotel, etc. Some airports like Dubai International and Santiago International are already using digital interactive signage to offer people flight information combined with an advertising and video wall. Retailers like Adidas have also equipped their stores with walls of displays, sporting their product line and allowing customers to touch and swipe through the different sneakers.

Redefining client services

Improving passenger services

New technologies and demand for services like ticketing and reservation, and will also create opportunities for new services.

Leveraging geo-marketing tools could help to facilitate access to platforms by guiding passengers on their Smartphones with walking directions and itinerary time to their train platforms. They can also indicate relevant shops on the way depending on preference settings. Geo marketing tools are already used in some airports: The application "My Way Aéroports de Paris" geo-locates the person in the airport and provides direction and itinerary calculation. It can also facilitate users' end-to-end traveling experience by providing a mobility solution: where and when is the nearest bus, taxi or metro station depending on arrival information. And it can be used to offer new services and promotional deals based on passengers' preferences. For example, Gap Mobile 4 U enables GAP customers to receive personal deal text alerts from the nearest store location.

Another example directly related to ticketing and reservation is the emergence of platform for European Rail Operators inventory distribution.

Client experience enhancement

Some passengers want more than to be carried from point A to point B in the shortest possible time and at the best price. They seek a specific experience during their journey.

Maintaining connectivity and interaction during a journey is one way to enhance the client experience. Lufthansa has created MySkyStatus application to stay connected to social networks during flight. This application is connected to Twitter and Facebook, along with flight information for almost any worldwide airline. The service also periodically connects to network accounts with status updates as to a traveler's whereabouts. Virgin Atlantic is also introducing Travel Tip Catcher, a system allowing passengers to discover and share travel tips during a flight. The system is contained in the aircraft's in-flight entertainment units.

Users can read tips about destinations, write short messages to others using the network, search reviews and rate content from other passengers. Frequent travelers are also looking to recreate an informal community on-board and in the airports. In-flight matching is gaining in popularity. Planely, a new social network for air travelers, signals if fellow network members are on-board. Similar services could be offered to train passengers to enhance the social aspect of a travel experience.

Another interesting development for onboard service is the use of augmented reality to display information about given destinations. Passengers access a synchronized travel guide application that displays information on the history of cities/places on the train's route using geo-localization (used by Wikitude World Browser). Google Goggles offers an even more innovative way to access augmented reality leveraging visual recognition and offering a similar type of information as Wikitude World Browser.

These services appeal to many categories of travelers: families looking for entertainment, frequent business travelers willing to create a sense of community, and youngsters searching for travel tips and companions.