

**Value creation in high-speed railway transport  
service**

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## 1. Introduction

Transport has always been a value creating process, as it transfers value from a place to another in a given time. It keeps the goods value, but also opens the way to improve it, first of all giving the chance to consume goods where they are not naturally available and/or in a time in which they are not typically available.

Transport also creates value as a service, not just in connection with physical goods transfer process, but by allowing people movement in the space.

So there can be two ways in which transport creates value, the first one is in straight connection with goods, and this activity can be called “*value in movement*”, while the other one is “*value creation*” (Lusch, Vargo, 2004, Grönroos, 2006), as it directly regards people using this kind of service in each of its different ways (air transport, sea transport, railway transport and so on, especially considering the combination among these ways, a very important option, as it will be showed in the following parts).

In last centuries transport grew up more and more, thanks to new scientific discoveries, new technologies (Profillidis, 1998), but also because of new human needs and their connected demands, perceived by private subjects and by central government or local agencies. So, for a deep description of the modern concept of transport, it is necessary a comparison between basic and advanced models, with the latter involving lots of added services to the simply people and/or goods transfer, the lonely feature of past models.

Thanks to recent improvements in the different ways of transport the value created for customers has become more and more important and, at the same time, higher, either in the features of basic services and innovative services.

## 2. Aim of the work

These concepts will be focused, especially, on high-speed railways, a recently renewed way of transport, as it is more evident how recent changes had a deep impact on its improvement, leading to a revolution in this economic field, all over the world-known as TGV, from the French “Train à Grand Vitesse”.

Starting from Japanese Shinkansen, high-speed train has been constantly improved and spread all over the world, but specifically in Europe, thanks to French firms “Société Nationale des Chemins de fer Français” (from now on SNCF) and Alstom and to central and local government involvement.

TGV development is not just connected with transport improvement as it regards high-speed, because the core activity has been extended with a wide range of related services that can be distinguished in basic and advanced ones; all of them, as a whole, are the most important factor in the creation of an higher value-in-use for customers/travellers, as they are living a new experience service with different value drivers and with money and time savings.

Most of these services can be booked by the traveller in a wholly autonomous process, thanks to the “*value-creator key*” put in his hands: TGV website, in the same time rich of information, but also easy to be used, so the consumer becomes value creator (Grönroos, 2006).

In this process, a concept expressed by the representatives (Grönroos, 2006) of the service dominant logic arises, as there is value co-creation, because the railway company allows the availability of the goods necessary to create all conditions in which the customer can choose his own services to see the value rise up.

If these operations show how travellers can be value creator and the railway company is just a value facilitator (Grönroos, 2006), there are other services in which these roles change. In fact, the railway company becomes value creator – in association with local transport operators – by considering all local and urban transport network connections too, arranged in order to allow the best connectivity, accessibility and capillarity, with time saving, even for people coming from suburbs or small towns.

In order to extend the combined transport advantages SNCF has also been involved in building some particular structures, called *aérogares*. The meaning of this portmanteau word is the meeting point in which people can be transferred from railway transport to air transport or vice-versa, by simply walking in a single building.

This can be considered as the maximal value proposition at present and it is difficult to compare it with something similar all around the world, as this is a connection between the two faster ways of transport in each of the two different forms; the concept of maximal value proposition takes place and relevance especially in a country like France, where international flights are necessary as there are people flying to national territories located in four different continents, just like Nouvelle Calédonie, Martinique and Polynésie Française.

In order to underline the relevance of this information it is necessary to take into account that about 2,5% of French people lives in one of these overseas territories or departments, viz. more than two million potential flyers and, consequently, TGV potential customers.

The aim of this work is showing how this innovative way of transport can be analysed in the modern perspective of service logic, by distinguishing value creation tools, processes and subjects, value-in-use and the maximal value proposition, just above introduced in connection with *aérogares* services.

### **3. Theoretical backbone**

French TGV consists of an innovative process (Centre européen du développement régional, 1992), carried on by local government and railway companies (Bavoux, 1994), analysed in detail since the beginning of 90s (Billardon, 1991). According to recent studies related to service logic (Gummesson, 1995, Lusch and Vargo, 2004, Grönroos, 2006) goods and services are everyday offered aiming to the creation of a better value-in-use (Ranchhod and Gurau, 2007, Stauss, 2007), in order to improve firm position in the market or allowing it the proposition of a bigger exchange value (Klopper, Petzer, et al., 2006, Raval and Grönroos, 2001), obtaining in both cases a competitive advantage on the market.

Value created by French railway company to all travellers is also analysed thanks to some other economics theory, like combined transport (Ferrara, 1973; Siviero, 2005),

service quality (Williams, 2003), servicescape (Martin and Pranter 1989; Bitner, 1992; Gummesson 1996; Zeithaml and Bitner, 2002) and local development (Storper, 1997).

#### **4. Methodology**

To analyze this economic field in service logic perspective, a deep analysis on a single case study has been taken on, about TGV offer system, viz. the starting point of this work, with a particular focalization on all services representing something new in transport world.

Even if in literature, sometimes, single-case study methodology has been criticised, in this work the choice of a single example to represent a particular idea is necessary, because French TGV represents the model and a benchmark for all countries looking for the implementation of a similar railway network based on high-speed. So, it is just like French system represents the unique example (Yin, 1994), because it is the best typology of project in this economic field. In particular the decision can be seen as a one-way process, because the project carried on by SNCF it is not one among a population, but is the one starting a population of networks, in which most of railways are still growing up in recent years, as Turkish “Hızlı tren” and Italian “FrecciaRossa” can show.

All new services have been considered as a set of advantages allowing best performances and an higher value for French travellers, first of all, and, then, for European travellers, as this innovative way of transport has been extended all over Western Europe, because of the great advantages allowed by it in the pioneering TGV services.

#### **5. Case study: the French TGV**

Starting from Japanese Shinkansen in the 60's (Taniguchi, 1992; Hood, 2006) high-speed train has been constantly improved and spread all over the world, but specifically in Europe, thanks to French firms SNCF and Alstom and to central and local government involvement in a leadership-building process for France in European transport network.

TGV development is not just connected with transport improvement as it regards high-speed of about 350 km/h, because the core activity has been extended with a wide range of related services that can be distinguished in basic and advanced ones; all of them, as a whole, are the most important factor in the creation of an higher value-in-use for customers/travellers, as they are living a new experience service with different value drivers and with money and time savings.

As it regards basic services TGV grants seats reservation and fidelity cards, just like most of the trains, and elementary on-board services, like air conditioning, comfortable seats, internet wireless connection and restoration services.

Services mentioned above give just a little growth to value-in-use given by the simple transport if they are compared to advanced services offered on TGV trains; first of all there are several conventions with cars and motorcycles hiring companies and taxis

that can be booked thanks to the “*value-creator key*” put in customers’ hands: TGV website.

There are lots of possibilities offered thanks to the website and they are very interesting since they can be decided in a whole autonomy process by travellers, so they can be defined as value creator for themselves, just like in literature the consumer becomes value creator (Grönroos, 2006).

Services can be selected before the travel and during it; naturally, the operations regarding on-board services have to be chosen at home and the facilities needed at destination can be also chosen during the travel, as there are internet services in the wagons.

Different transport connections and various facilities available after the travel are not the lonely “at destination services”, as travellers can book a hotel in the destination area through TGV website. This is an important service even if it is not so pioneering, while the real innovation is related to travel itineraries suggestion, showing lots of ideas based on several themes – and addressed to different clusters of travellers, in order to satisfy most of them –, like tourism, wine and food, trekking, history and so on, giving the best-way travel suggestion, in terms of time and costs, even for bike travellers, as there are also specific wagons offering the needed space and tools for bike parking and maintenance.

In this way the value creation process is based on a necessary and previously market clustering because it is essential to create at least an itinerary for every cluster, sorted by age or by expenditure inclination.

When talking about on-board services a particular value creation process takes place, as there are some elements connecting one to the other, in order to allow high-quality and custom services; in fact, personal competences in seeking and choosing the best solution by using personal instruments, like a computer, are mixed to offered instruments, like the internet connection to create a meltin’ pot, whose main output was immaterial, but it embeds an higher value.

In the above mentioned process, a concept expressed by the representatives (Grönroos, 2006) of the service logic arises, as there is value co-creation, because the firm (the railway company) allows the availability of the goods necessary to create all conditions in which the customer (the traveller) can choose his own services, accomplishing an added value for himself and, consequently, a better competitive position for the firm, thanks to a better service providing experience.

Moreover the contemporary usage of customer personal competences and goods and firm facilities shows that this interconnectivity is needed because of a multiplicative relationship, in which the absence of only one of the three mentioned kinds of element lets the value fall down.

The strongest change in transport service logic is referred to on-board events, just like concerts or shows, because they turned upside down customers conditions in buying this service, as transport is not bought in his natural way of serving travellers, but as a place in which people decide to spend free time, particularly choosing a whole different kind of service hosted on-board.

If these operations show how travellers can be value creator and the railway company is just a value facilitator (Grönroos, 2006), there are other services in which these roles change. In fact, the railway company becomes value creator – in association with local transport operators – by considering all local and urban transport network connections too, arranged in order to allow the best connectivity, accessibility and capillarity, with time saving, even for people coming from suburbs or small towns.

Looking to the whole transport network centred around TGV there is more than a single value creator, because local agencies and governmental entities have the same role, as they work in strictly connection with French railway operator since the high-speed railway network was projected; this partnership acts in order to reach the above mentioned aims of accessibility and capillarity, thanks to local forms of transport, some of them fittingly realized to spread all over the country the value created by high-speed trains, viz. to create conditions to let people obtain benefits from using this innovative service, but also to favour regional development. This theme leads to concepts like cities nationalization and cities internationalization, as smaller cities, developed just on a regional area, have the chance to become economically relevant on a national scale, while bigger cities, just like Paris and Lyon, as it regards France, have the chance to become international referring points into European economic system.

First of all SNCF established a strong relationship with local government, because a similar service would be able to give similar advantages, allowing the achievement of a particularly higher value-in-use, only if the connection with the cities had been responding to capillarity and accessibility qualifications.

This necessity arises also from the economic consideration and evaluation of the costs (Association des villes TGV, 1991), in temporal terms, of each stop, as TGV has to decrease its speed from around 300 km/h to a few km/h arriving in the station and the stoppage time represents a cost too. So the planning committee in the 80s, thanks to a careful cost-benefit analysis, understood the ideal path for this way of transport, based on medium-long distance itineraries with a few stops, as the cost of each stop was considered higher than the benefits coming from it.

The partnership works between the French railway operator and the local transport companies and allows the achievement of a subsidiary network, spreading high-speed transport flows all around French landscape. In this way the value creation is a result for everyone in France and not just for the ones living in bigger cities or in cities where TGV is stopping.

In order to extend the combined transport advantages SNCF has also been involved in building some particular structures, called *aérogares*. The meaning of this portmanteau word is the meeting point in which people can be transferred from railway transport to air transport or vice-versa, by simply walking in a single building.

French *aérogares* are located in Paris – Charles de Gaulle airport –, Lyon and Nice. This idea arises from the already known advantages coming from combined transport, applied to people in this particular case; in this logic people can have a benefit from two or more forms of transport - used for a single movement act, composed by two or more sub-movements - and this advantage become more and more higher if the time, the costs and the externalities due to the switching from a form to another one are as low as possible. As it regards *aérogares* the time in which a traveller can reach the airport from the railway station, and vice-versa, is trivialized, because the distance is very condensed; the same consideration can affect the cost of this switching, particularly because in transport field there is a direct relationship between time and costs; finally the externalities for travellers is not in the least considerable, as they are just required to walk in the same building in which they arrive with the train or land with the plane, and they would probably appreciate it, especially when *aérogares* become an attractive area. This improvement in the structure gives a different kind of advantage face to combined transport; the reform has been made thanks to shops

installation, but, first of all, as a consequence of the decision made by railway operator and French government to assign the architectural project of this building to the best architects in the world; in this way the station is not just a place in which a traveller has to stay to wait for leaving or in which he has to walk to catch the train or the plane, but he is walking in a post-modernist monument.

The most important example of the beautiful results of this idea was the Lyon-Satolas railway station, conceived and built by the Spanish architect Santiago Calatrava, who embeds in his project all planned purposes of the *aérogares* (Polano, Calatrava, 1996), both on technical and functional point of view. As it regards the technical advantages the designer organized the railway station by dividing it in three parts, as there are two tracks for trains leaving Lyon and/or arriving in it and a track for train passing in the station without stopping, called “Tube 300”, with a direct referring to the speed expressed in kilometres.

From this channelling a consideration arises: passing trains reach very high-speed, also inside the station, so the structure of the station has to be ready to avoid value destroying, because of wind flows or noises; in order to reach this goal some pillars have been built and installed with a particular inclination to beat off bad consequences of TGV passing; in this way the railway operator can offer an high value.

Moreover, a sort of lookout point has been created, as there is a glass covered balcony on the stage above the track, allowing the observation of the high-speed trains passing into the station.

The sensorial aspect played a fundamental role into the process of value creation, because, not only the service itself, but the environment too, has been deeply studied. This is evident, once again, looking to Satolas-Lyon station and the beautiful sight available from the superior stage, thanks to some wide windowpanes. All listed features are part of a whole, named servicescape in economic literature, and this can be interpreted as a way in which the value-in-use become higher for travellers, thanks to provider intervention.

## **6. Findings**

The perception of a bigger value will be an instrument for railway operators to be everyday more competitive face to air transport, in terms of costs and time, even if this advantage is strictly connected to small and medium distance itineraries.

French value creation model in transport railway network is becoming more and more important, that is why Europe is following this example, so a massive program of building high-speed railways is on the way in the “Old continent”, looking to a double-sided objective in each involved country: firstly, the improvement of the national transport network and, secondly, the insertion of its railway into an European network, in order to make possible the creation of long-way itineraries for high-speed trains, giving to customers a constantly growing value-in-use.

Similar considerations will be further deeply analysed when more and more international railway itineraries are created, even because all European countries have been investing in high-speed transport infrastructures in recent years.

Summarizing the most important considerations of this work, it is possible to underline that the customer/traveller acts like value co-creator, thanks to the instruments set by SNCF, cooperating in the value creation process; the value-in-use

created is very high, because it consists of all the benefits in each kind of service provided inside the main offer – the travel – embedding all of them.

Moreover these services are provided only thanks to traveller intervention, as he can directly decide where and when he wants choose them, which services he wants and when he wants them.

Giving the availability of the choice 24/7 and everywhere has been possible only thanks to internet, that plays a fundamental role in modern economy and it has been named, in this work, the value-creator key, because all services would have given advantages, and so an higher value-in-use, but a wholly free and careful decisional process is even better, permitting a further growing value-in-use.

In the end it is important to focus that all the features of the analysis made in this work have not taken in consideration the commercial policies, just adding an economic saving to the customer, as the main idea of value creation is based principally on different aspects, typical of service logic, with a deeper vision to a careful value creation process and not only in a promotional way, in order to build a durable kind of advantage for the service provider.



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