

VANQUISH MYOPIA - FROM INVESTMENT TO SALES IN TIMETABLE PRODUCTION

THE RAILWAY TIMETABLE PRODUCTION PROCESS IS OFTEN TREATED FROM A MOSTLY TECHNICAL, PRODUCT ORIENTED, PERSPECTIVE. IF IT IS REGARDED IN THE CONTEXT OF A MORE CUSTOMER ORIENTED SETTING AND PROJECTED ONTO STANDARD INDUSTRY BUSINESS PROCESSES THEN SOME UNORTHODOX CONCLUSIONS ABOUT ITS OPTIMAL DESIGN CAN BE DERIVED AND SOME FIERCELY DEBATED ASPECTS APPEAR IN DIFFERENT LIGHT. IN THIS CONTEXT, EVEN PARALLELS BETWEEN THE RAILWAY AND THE MOVIE INDUSTRY CAN BE DRAWN IN A NATURAL WAY.



1. SERVE YOUR CUSTOMER, NOT YOUR PRODUCT

In 1960 Theodore Levitt, in his celebrated article "Marketing Myopia", presented some remarkable ideas that are nowadays considered common knowledge in marketing. He did so, using the stories of decline of the movie and railway industry. The central hypothesis of his article being that both industries were product focused instead of focused on their customers' needs, which led to their demise. Although the world certainly has changed in the past fifty years and both industries have managed a remarkable revival, much has stayed the same. In this article we will reflect upon the railway infrastructure manager's (IMs) business of today, starting out at Levitt's thinking. For the sake of simplicity, we will largely neglect the role of public authorities in this article.

From a technical point of view, railway timetable planning can be regarded as the continuous transition from long term

abstract models towards operations' reality by continuously adding more details to the actual planning models. But if projected onto standard business processes, railway timetable planning appears much more heterogeneous. In section 3, we will elaborate on that aspect, trying to clarify the diffuse notion of planning system a bit.

There certainly isn't an obvious analogy between the railway and the movie industry. Again following Levitt, we still dare to draw an analogy between the two in section 4.

2. WHAT ARE INFRASTRUCTURE MANAGERS SELLING?

Well the very first question to be asked would probably be: Who are the IMs customers. The formally correct answer is: Railway passenger and freight operators. But on second thought one realizes that it is basically impossible to know the operators' needs without knowing their customers' needs. So in fact, the IMs need to understand the travel-

lers' and transporters' needs, in order to be able to design products and services that add value to the operators.

Travellers, be it for business, commuting or leisure, are interested in mobility. That means they want high frequency, short trip time point to point connections with as few transfers as possible.

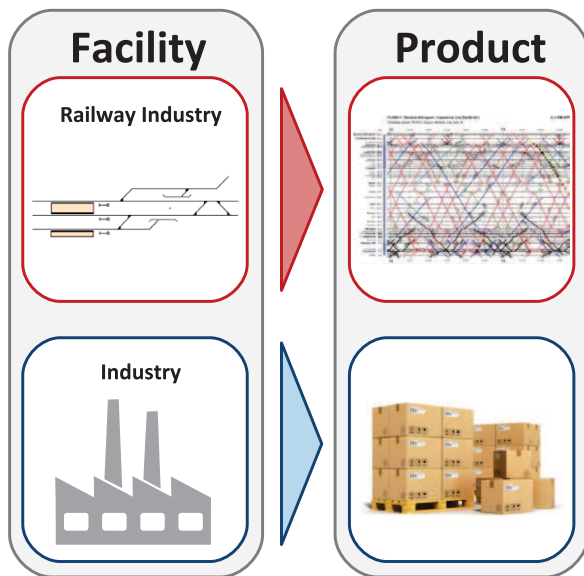
Nevertheless, the closer it comes to actual operations; many European IMs tend to focus on a pure single path view instead of keeping the set of all point to point connections at the heart of their service offer considerations. The reasons for this are multifarious. First, operations themselves are naturally focused on production of train rides rather than production of mobility. Second, regulatory constraints in network access are easier formulated in terms of single slot availability. A possible third reason could be the lack of IT systems and planning processes that allow the IMs to actually plan real service offers at reasonable costs, because their planning models simply contain too many unnecessary details.

So in terms of Levitt's thinking, the reason for the IMs on focusing on sale of single slots could simply be that they are not able to produce at reasonable costs what travellers need. This would be a clear case for product instead of customer orientation.

3. THE TIMETABLE BUSINESS

The terms long-, mid- and short term planning are widely used in railway timetable production, but the understanding of these terms differ quite a bit depending on the institutional and governance context. What is constant about these terms throughout all geographical and cultural contexts is the, almost exponential, distribution of the resource allocation from long to short term planning. Is this justified when considering timetable production in the context of standard business processes? If you consider long term planning as infrastructure and capacity design, then you certainly agree that in general this is considered as standard investment planning, your infrastructure being the production facility, which you need, in order to produce your services to the benefit of your customers.

Consequently, long term planning should be considered as part of the product design process. Most people would probably agree that it is necessary to know what product you intend to produce, before investing in your production facility. So if you consider your product to be an overall service concept, optimising the overall point to point connections is imperative



to adapt your planning processes and IT systems in order to be able to plan your future service concepts together with the infrastructure you intend to use for its production.

It is worth noting that, this also implies that planning methodologies based on capacity calculation like UIC 406, which focus purely on the compression of single paths along one dimensional infrastructure elements, are, at best, only of limited value for the prediction of future capacity indicators.

In mid-term planning you usually plan your transportation services on existing or projected infrastructure. Hence you consider your production facility as being fixed and your services have to be produced on that infrastructure. This naturally leaves you much less leeway for product design than in long term planning. Nevertheless, this is the process stage where you start adapting

your product design to production constraints. This could mean for instance, minor changes in arrival or departure times of a single train of a regular-interval family, due to irregular crossings with another train or restricting your services at certain times and days in order to follow fluctuating demand or needs for maintenance works

So in terms of business processes, in this planning period you basically optimise the usage of your facility considering operational issues and their impacts on your service delivery and sales process. This implies that you need to differentiate your service concept and adapt it more closely to the operational service concept by adding more details to your planning model.

Finally short term planning deals very much with the sales and delivery process. The possibilities to influence the shape of your product are very limited at this

process stage. Regulatory aspects and allocation of residual capacity are the dominant concerns. Naturally the IM has to shift the focus away from the customers' needs towards his product delivery abilities. This also includes robustness analysis like conflict detection or refinement of running time calculations on rather detailed planning models, including microscopic infrastructure elements like signals and switches. Of course, consideration of such detailed model elements leads to a very substantial increase of costs in this last stage of the timetable production process. Consequently, adaptations to your basic product design are basically impossible at this stage and hence, for the sake of flexibility and cost efficiency this process stage should be as industrialized as ever possible. Additionally the activities should be entirely focused on simple sales and final preoperational tasks in order to avoid excessive resource allocation.

It is a widespread misconception to consider every IT system that deals with timetable data as a planning system. When the timetable production process is mapped on the investment planning, product design, production optimization, maintenance works planning or sales process, it becomes obvious that as the time horizon changes, there are different requirements to features and system modelling. Nevertheless, in order to implement an integrated production process, it is desirable that one

IT system covers the whole timetable production process. Hence the system should be able to support continuous refinement of the planning model. Unfortunately, in the real world most IMs still focus most of the resources in timetable production around systems with the maximum degree of model detail depth.

4. WHAT HAS THIS GOT TO DO WITH MOVIES?

When the European railway regulation led to the split up of integrated railway companies into freight-, passenger operators and infrastructure managers in the hope to increase competition on the networks, this led to somewhat confusion on the question of which actor was taking what responsibility in this new beautiful railway world.

This confusion is particularly visible in the long- and mid-term timetable planning process. There are no two European countries where these processes look even closely the same. Where in some countries the timetable design is left almost entirely to the passenger operator, in others it is completely controlled by the infrastructure manager.

In our view, this indetermination is closely related to the undecided question what IMs are selling. With some justification, the operators insist on the right to design their service concepts, as they are the only actors directly rewarded according to their success in the transportation market. On

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the other hand the IMs can claim the same right with regard to their responsibility in long-term infrastructure investment.

Maybe the movie/cinema industry can provide a hint on how to solve this dilemma? The movie industry is producing the content and the cinemas are bringing it to the public. Neither could exist without the other and there has rarely been a disagreement about their responsibilities.

The key partly lies in the compensation model they are using. Instead of the cinemas being forced to pay a fixed amount for the movies they show, the filmmakers are getting their share of the actual revenues generated by the cinema audience. Thus the in-

centives of these two actors to bring popular content to the public are much better aligned than in the railway industry, where operators pay the IMs according to the amount of trains operated rather than to the number of passengers or goods delivered.

5. CONCLUSIONS

Starting with basic ideas of marketing and putting the timetable production process in the context of IMs' business processes, we can draw two basic conclusions.

First it is crucial for an IM to determine his basic customer. We strongly favour the concept of seeing the traveller and the

transporter in this role. From this, following Levitt's concept of customer orientation, it is a straightforward consequence that the IM's product is a service concept rather than a set of single paths.

Consequently there should be given more attention to the product design and the according investment planning for the production facilities than is nowadays generally the case. In view of this, the timetable production process should be industrialized and supported by IT systems enabling continuous refinement of the model from long- to short-term planning.

In turn it might be necessary to think about a change in the compensation model between the IM

and the operator in order to better align the incentives with this concept. Here the major challenge is to design a regime of infrastructure access charges that simultaneously: 1. Provides incentives for train operators to use existing capacity wisely, 2. Establishes incentives for IM to adequately maintain existing capacity and invest in new capacity when needed, 3. Treat both incumbent and new train operators fairly 4. Generates an adequate revenue stream according to the number of passengers or good delivered ■

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