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Stakeholder perspectives on improving rail freight services on the eve of rail market liberalization: An analysis of the Turkish Rail Freight Market

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Abstract

Turkish rail market will be liberalized in the near future in order to comply with EU Directives. Before liberalization, the traditional rail operator, TCDD, needs to recognize and adequately understand the perceptions of different stakeholders and their problem identification with respect to rail freight services. This paper focuses on the perceptions of a group of stakeholders on how rail freight services can be improved, the services desired by customers and the facilities required for rail transport to provide such service. This survey has been conducted by interviewing institutional stakeholders and railway freight companies (both manufacturers and forwarders) and was completed with a focus group meeting to test proposals from the clients. Empirical data was gathered by utilizing semi-structured interviews. This paper reports the findings of the first stage of the research, where a better understanding of the perspectives of the participants and the issues that must be dealt before liberalization of rail freight market were produced. This research has been carried out with the finance of the World Bank.

Keywords: rail freight; liberalization; stakeholder perspective; Turkish rail market

1. Introduction

Improving and promoting sustainable transport is the core of the European transport policy, as set out in the 2001 White Paper (European Commission, 2001). It is still the main issue of the new Transport White Paper published by the European Commission on 28 March 2011 which strongly favours rail both

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directly and indirectly by putting forward ambitious goals for 2030 and 2050 (European Commission, 2011). The European transport policy focuses on establishing a sustainable transport system that meets society's economic, social and environmental needs by developing a competitive internal market for transport through market opening and liberalization (European Commission, 2009, Mäkitalo, 2011). In order to stimulate competition and revitalization, EU Commission has introduced regulations for liberalization of the rail freight services. The opening of rail freight markets, based either on Community legislation or national initiatives, has generally resulted with increased market entry and integration (http://ec.europa.eu/ transport/rail/market/freigt _en.htm) and empowerment of the rail's market orientation (AIMS, 2010). Thus, the freight business market in Europe is giving to the railway new opportunities for growth that can be the ground for a new revitalization of rail. According to the Oliver Wyman's competitive landscape scenario in Europe, the rail market will be dominated by few pan-European network carriers, specialists and regional feeder / de-feeders. The competition between incumbents will be replaced by competition between incumbents and new players. New competition arena will involve incumbents and new players that serve attractive niche markets. Therefore, the liberalization process urged incumbents to adapt to a new role, competing with new entrants including foreign incumbents (Ghijsen, Semeijn,Linden ,2007).

Turkey as a EU candidate country did not yet open the rail market into competition. After recognition of Turkey as a candidate for accession to EU at the Helsinki European Council in December 1999 and declaration of start for membership negotiations in December 2003, current efforts have been concentrated on adoption and implementation of the acquis. One of the commitment of Turkey to EU is related to the liberalization of the Turkish rail market (EUSG, 2008). A bill on the rail market is on the political agenda for nearly 4 years now and expected to come into force in 2012. However, before liberalisation, there is a need to prepare the traditional rail operator, Turkish State Railways (TCDD), to deal with many problems in terms of customer-orientation, international presence, quality and productivity in order to adapt to a new role, competing with new entrants in a liberalised market. Considering the concrete prospective of less public financial aids, TCDD needs to change its commercial policy, defining a new strategic positioning bmmmmmmased on a market driven strategy.

In this paper, we will evaluate the perceptions of different stakeholders and their problem identification with respect to rail freight transport, based on interviews with 109 key stakeholders in Turkish rail sector on the eve of rail market liberalization. The objective of this survey is to analyze the current situation of rail freight transport to understand satisfaction and critical factors from the customer point of view and finally to provide indications for developing new market strategies considering the liberalization.

2. Turkish rail freight system

Like many EU countries, in Turkey too, a policy shift has taken place in favor of rail transport as a consequence of both environmental concerns and the will to integrate into the international transport networks. Although it has been desired at the transport policy level and is increasingly moving into the focus of logistics operators, rail has still not yet managed to gain increased market share (Babalık-Sutcliffe, 2007). Today, Turkish freight transport market is dominated by road. In 2010, road modal share of volumes – in term of tons km – has reached 89% and the share of maritime transport, not including transport to or from foreign countries, was 5,4% - calculated converting tons marine miles in tons km. In the same year, railways has transported the same equivalent volumes of maritime transportation mode. Freight transport by rail is carried out by the state-owned Turkish State Railways (TCDD). TCDD is also responsible for the infrastructure. Though private railway undertakings can offer transport services via their own, rented or leased wagons, the traction market is still under TCDD's monopoly. Considering that Turkey is on the edge of liberalizing its rail market in order to comply with EU Directives, it is expected that this scenario may change by the liberalization of the sector. Considering also the steady growth Turkey has enjoyed since the year 2000, with average GDP growth reaching 7%, we may conclude that the future Turkish freight scenario will be characterized by a strong increase of transported volumes and by the liberalization process in the rail market. Thus, by losing its monolithic position in the market, TCDD will have to operate in a high competitive market and will face a pressure than ever before to improve its competitiveness. Furthermore, the actual capacity bottleneck of the railways will become more critic with the entrance of new private operators in the market targeting the most profitable routes. In order to face this situation, TCDD should look toward focused strategies on a selection of its customer and traffics to decrease the use of resources on the market. To ensure the functioning of rail freight improvement strategies, there is a need to investigate the perceptions of the various stakeholders in depth. It is important to recognize and adequately understand the perceptions of different stakeholders and their problem identification with respect to rail freight transport.

3. Railway freight survey

The railway freight survey is focused on the perceptions of a group of stakeholders on how rail freight service can be improved, the range of services desired by customers and the facilities required for rail transport to provide such service.

3.1. Survey background

Although recent studies about Turkish rail freight transport have addressed policy, mode choice and productivity, competitiveness e.g., (TUSIAD 2007, Sahbaz and Yüksel, 2008) and intermodal opportunities e.g., (Ergin and Cekerol, 2008) builded on literature analyses and second-hand statistics, there is lack of studies concentrated mainly on the point of views of the market actors with first-hand data gathered via face to face interview with stakeholders. Only in few studies, qualitative methods were used (TUSIAD, 2007). Thus, the railway freight survey aims to fill this existing empirical gap and contribute to the existing knowledge.

The main research question of the study is:

- How can TCDD improve freight service levels and ensure its long-term viability in the future liberalized market?

The sub questions follow the research question, with an objective to support the research purposes, which are:

- What are the critical factors affecting the transport mode choice decisions? 2) What are customers' perceptions of quality of TCDD's freight services? 3) What are the strengths and weaknesses of TCDD according to the stakeholders?
- What are the main perceived problems that different types of stakeholders associate with rail freight transport?
- What are the most preferred solutions promoted by these stakeholders to improve the problems?
- How the stakeholders see the future of rail freight?

3.2. Methodology

Basically, there exist two types of research methods, quantitative and qualitative. Qualitative survey methods are increasingly being used in research and policy studies to understand customer perceptions, attitudes and behavior in order to gain a more thorough understanding of the related market. Quantitative research seeks causal determination, prediction, and generalization of findings, whereas qualitative research's main intention is to seek understanding and extrapolation (Hoepfl, 1997). Due to these circumstances, qualitative research method was selected which fits particularly well to understand the rail freight market. Participant observation, in-depth interviews, and focus groups are the most common qualitative methods (Denzin and Lincoln, 2000). Due to lack of first hand empirical data in the research field, by interviewing major stakeholders from Turkish railway freight market, it was possible to gather genuine actor-level data. In order to gain a more thorough understanding of this engrossing railway freight market, semi-structured theme interview was chosen as an interview type.

The survey process started with format design of the questionnaire instrument used in the survey and followed by the creation of the contact list that include key stakeholders in the 7 regions of TCDD who possess appropriate background to respond to the survey questions. 3 types of questionnaires were designed and taylored for; a)retail manufacturing companies customers and non customers of TCDD in the last year, b) main forwarders, shippers, MTOs, logistics customers and non customers of TCDD in last year, c)main institutional stakeholders, chambers of commerce, NGOs, etc. The questionnaires were designed to find answers to the research questions, which will not be listed here again to avoid repetition. A large variety of questions was drafted and then by selection and rewording, editing and reconsidering, draft questionnaires were constructed. Then, a set of test interviews were held, each representing a different stakeholder group. Significant revisions have been made to the draft questionnaire based on the inputs obtained from the test interviews.

The research has been conducted by interviewing institutional stakeholders (ministries, chambers, associations, trade unions, etc.) and railway freight companies (both manufacturers and forwarders) and was completed with a Focus group meeting to test emerging market segmentation and proposals at the end of survey process. Railway freight survey was conducted by a Survey Company as in depth semi-structured interviews. The interviews were held between May and June 2010. All persons selected for the interviews were professionals; company representatives' were either managers or specialists. The Focus Group session was carried out by a survey company in Istanbul on 20 July 2010 with participants from manufacturing and forwarder companies, representing the clusters of initial segmentation analyzed from elaborations of survey results. During the survey, interviewers were asked to state their satisfaction and the ranking of importance they attributed compared to the other aspects on a likert-type scale from 1 (unacceptable) to 10 (fully acceptable). 57% of the interviews were carried out in the Region of Istanbul where the majority of the companies' headquarters are located. Other interviews carried out in the regions represent the current distribution of companies in each Region of the Turkish territory.

About 96 in-depth interviews (47 to forwarders and 49 to manufacturers) from a representative sample of companies taken from the list of the clients of TCDD were held. Another 13 interviews were carried out with the institutional stakeholders, NGO's etc.

3.3. Results

Customers want transport of their cargo at the right time, from and to specified locations, in the right quantity according to an agreed schedule with minimum damages and losses and at minimum cost (Zomer, 2008). To find out whether the stakeholders in Turkish rail sector perceive a need for specific requirements to achieve, we have asked what they expect from railway operator and how they perceive the railways on the eve of liberalization. According to the results of the survey, the quality/price ratio was considered as the most important element both by forwarders and manufacturers. Through the survey, rail freight customers highlighted that they want to see significant improvements in what matters most to them – competitive pricing, responsiveness to customer needs, reliability of service and journey time. Yet while manufacturers are more concerned about tangible aspects of the service, forwarders give much importance to the improvement of intangible aspects such as information/ communication and higher staff competence, features that can evidently improve rail mode choice in purchase decisions.

Critical Factors Related to the Mode Choice

The most critical factor affecting the mode choice decisions is the cost. The other important critical factors are journey time, security and the type of freight. Around eighty % of customers said that the most important criteria in their mode choice decisions was competitive pricing. This ranks higher even than delivery time - cited as a decisive factor by 59 % of manufacturers, 47 % of forwarders.

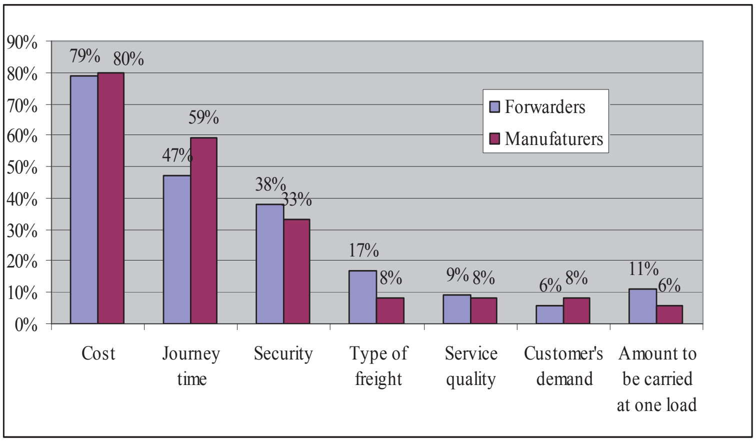

Fig. 1. Critical factors in modal choice process

Customers' Perceptions of Quality of TCDD's Freight Services

Manufacturers compared to forwarders are slightly more satisfied regarding the administrative aspects. The reason for such satisfaction level in some cases is that they do not work directly with TCDD but through forwarders. The ability to understand customer needs and the ability to solve problems (responsiveness to customer needs) are considered very important and are judged highly satisfactory by customers, whereas time to market is considered as a critical factor.

Turkish logistics and transport managers have rated the quality of rail freight transport overall as positive, according to the survey. Customers appreciated the ability of TCDD to: engage in problem solving, transport high quantities, provide convenient pricing for heavy goods, understand customer needs notwithstanding its many constraints, give high level of safety and security in conventional and intermodal rail services. On average, the companies surveyed already handle up to 45% of their annual transport volume via rail, with further expansion likely. However, around half of those surveyed feared that the current capacities for rail transport will be insufficient to accommodate future demand growth. Customers indicated TCDD should invest more effort to: reduce tariffs (high prices), speed up journey time (transit time), improve information and communication (customer care), increase availability of wagons (specially in intermodal traffic), invest in higher staff competence, solve bureaucratic problems (at central level), respond to loading and unloading requests (at regional/ local level), face/solve sudden requests. On the other hand, stakeholders suggest that TCDD should assume a more proactive role in the transport market and active in logistics villages and international transport, develop serious customer orientation (preparing staff and communicating more closely with customer to understand needs and requirements), develop better and strong internal communication, improve rail freight transport performance to be competitive with new comers in the liberalized market.

Regarding the forwarders satisfaction level for the quality of the operational aspects of the conventional railway service, the most important elements are considered as the delivery times, transport safety and availability of wagons when requested. While the satisfaction level of these last two elements is good, customers express negative satisfaction for delivery times. The most important elements related to the operational aspects of intermodal services are delivery times (8.14) considered as highly satisfactory and transport safety from failure and damage (6.33). The highest score of satisfaction is registered for ability to satisfy wagon requests (7.26) and for delivery times (7.19) while the highest criticality is manifested in relation to the ability to face sudden requests (5.72) while the average score is 6.58.

For manufacturers, in conventional rail service, the most important factors are delivery times (8.35) and performance related to availability of wagons requested (7.85). Both these elements register also a good level of satisfaction by manufacturers, respectively 7.06 and 7.46. The ability to face sudden requests is considered as a critical element by customers and therefore it would be better to invest in this factor. For manufacturers, in intermodal services, the most important factors are delivery times (8.35) and performance related to availability of wagons requested (7.85). The highest score of satisfaction is given to transport safety from failure and damage (7.69) and delivery times (7.41). The major critical factor that is registered in all cases is the ability to face sudden requests (5.63) which is well below average scores registered of 6.71. Therefore TCDD should invest on this aspect to improve customer perception.

Strengths and Weaknesses of TCDD Perceived by Customers

Synthesizing all the opinions received from customers in a SWOT analysis, the main strengths of TCDD are reliability and solidity, even if this condition is related to the current characteristic of TCDD's monopoly structure operating as a public company.

Table 1. Strengths and weaknesses of TCDD perceived by customers

Strengths	Weaknesses
Trustability	Loading & unloading
Large capacity	Long journey times
Being state organization	Not modern enough
Good prices for heavy goods	High prices
More availability of wagons/ More suitable wagons	Bureaucracy

The weaknesses highlighted are the handling services of loading & unloading activity, long journey times and the bureaucracy. Other items coming from the focus group session are related to the invoicing system, safety of transported goods and inadequacy of communication with the customers and lack awareness of the customer needs. Opportunities for TCDD freight services are related to a strong demand for coal transport and new markets such as consumer goods, oil, liquids, dangerous goods, agricultural goods, automotive, etc. Other opportunities come from Turkey's position as a transit country from Europe to East. Liberalization is considered as the main threat because new entrants could rapidly overtake TCDD's position in the market if TCDD will not invest heavily in improving its freight services. For door-to-door services, road transporters and other logistic operators have a competitive advantage in respect to TCDD. Also, private wagon owners and private container owners can quickly change their profile from TCDD preferred suppliers to actual competitors.

Customers' Needs and Expectations from TCDD

The expectations and suggestions of customers from TCDD for improving freight service levels and ensure its long- term viability are presented in Table 2. The first two suggestions of both forwarders and manufacturers are competitive prices and faster freight delivery. Institutional stakeholders suggest that TCDD should take a more proactive role in transport market in Turkey and international arena by transforming to a logistics provider. Other important suggestion is towards developing serious customer orientation and close communication with customers to understand their needs and requirements and also improving rail freight transport performance to be able to compete with private operators.

Table 2. Suggestions of customers for quality improvement in freight service levels

Forwarders	Manufacturers
Trustability Better and more competitive prices (28 %)	Better and more competitive prices (20 %)
Faster freight delivery (time to market) (21 %)	Faster freight delivery (time to market) (20 %)
Investment in infrastructure (17 %)	Investment in infrastructure (10 %)
Resolution of Van Lake transfer problem (11 %)	Better communication with customers (10 %)
Investment in technics (9 %)	Fast loading and unloading (10 %)
Better communication with customers (9 %)	No more block trains (6 %)
Better customer relations of frontline staff (6 %)	Faster freight delivery (time to market) (20 %)
Increase the number of locos (6 %)	Investment in infrastructure (10 %)

Customers see capacity bottlenecks on international connections as a serious obstacle to any further expansion of rail transport. Van Lake transfer problem is indicated as a significant obstacle and bottleneck on the Trans Asian South corridor, from Europe to Iran and up to China. If rail is to be used more intensively as a vital link in logistics chains then punctuality is a prerequisite for success.

Participants to the Focus Group suggested that TCDD should improve the quality of the rail freight service by offering a series of additional services that are also confirmed as priority needs both by forwarders and manufacturers i.e: a) wagon tracking system, b) call centre, c) container transport and logistic villages.

Niche Markets

When discussing with interviewees about the niche markets, majority of the respondents stated transport of dangerous goods, automotive transport and container as niche markets for rail mode (see Table 3).

Table 3. Niche markets for rail freight according to the customers

Forwarders	Manufacturers
Transport of dangerous goods (oil, lubricants, chemicals, acids, liquid gas)	Container transport
Transport of automotives	Dangerous goods
Fresh fruit & vegetable transport	Food transport-Fresh fruits & vegetable transport

Future of Rail Freight

Both forwarders and manufacturers believe in the economic growth of Turkey and therefore they expect growth in trade and their domestic and international transport demand in 2011. Basically future is seen positive. Of those surveyed, 40% indicate that they intend to handle up to 10% more transports via rail over the coming 12 months; only 13% anticipate stagnant demand, and just 18% a decline in demand. It therefore seems likely that rail will continue to post strong growth and an increase in market share. Important thing to note is the level of shared support for liberalization of rail sector. Notably there is a strong and mutual support for the rail liberalization from all actors.

4.Conclusions

To ensure the functioning of freight improvement strategies there is a need to investigate the preferences of the various stakeholders in depth. In particular, we need to understand what the main driving forces behind the behavior of different stakeholders. It is important to recognize and adequately understand the concerns of different stakeholders and their problem identification with respect to rail freight transport on the eve of rail market liberalization. To shed light on this issue, in-depth interviews were carried out to investigate the problem perceptions and positions of key players in the Turkish rail freight sector.

This study has provided insights into the customer perceptions on railway freight market in Turkey. The purpose of the study was to analyze and monitor the current situation of rail freight transport in order to understand the satisfaction and the critical factors from the customer point of view and to identify the strengths and weaknesses of the rail freight service. Study's empirical data was gathered by semi-structured in depth-interviews. Since research was a qualitative case study analysis, qualitative research method was chosen as a research type and concentrated on descriptive analytical approach. Overall 109 in-depth interviews were conducted. Previous studies have concentrated on second-hand data and literature analyses. First-hand data gathered via interviewing market actors can be seen as attenuating the existing empirical gap. Through this survey freight customers have sent the rail freight sector a message that in order for it to achieve growth and long term viability they want to see significant improvements in what matters most to them – competitive pricing, responsiveness to customer needs, reliability of service and journey time. A main point emerging in the interviews was the high degree of support among stakeholders for the liberalization of rail sector and restructuring of TCDD taking proactive role in the region.

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