

---

ISSN 0554-6397  
UDK 656.614.3:004.7385  
PRETHODNO PRIOPĆENJE  
(*Preliminary Communication*)  
Priljeno (*Received*): 03/2005.

---

**Alessandra Marasco**

National Research Council (CNR)  
Institute for Service Industry Research (IRAT)  
Logistics and Freight Transport Research Group  
Via M. Schipa, 115 - 80122 Naples, Italy  
Tel. +39 081 2470961 - Fax +39 081 2470933  
E-mail: a.marasco@irat.cnr.it

---

## **Business Models of Transportation Electronic Marketplaces: an Empirical Survey**

### **Summary**

Despite their relatively short history, transportation electronic marketplaces are already undergoing a difficult period of consolidation, which has forced many to cease operations or merge with other industry players. The high rates of failure experienced by most of these new web-based intermediaries justify interest in their future viability. This paper is part of an ongoing research concerning the strategic choices and the competitive positioning of transportation electronic marketplaces and it is aimed at providing a first insight into the characteristics of the business models of these intermediaries and their potential relevance for viability in the long term. Via an extensive literature review, the paper identifies a reference framework encompassing several descriptive dimensions of the business models for transportation electronic marketplaces. This frame has been applied to a sample of marketplaces. The results of the analysis bring to evidence some common features of the business models of examined marketplaces which are likely to positively affect their capability to survive in the current period of fierce competition and consolidation.

**Key words:** infomediaries, transportation electronic marketplaces, market consolidation, business model

### **1. Introduction**

The rapid spread of electronic business and its underlying technology, the Internet, has induced a completely new landscape for the transport industry in recent years. Among the most significant effects of the widespread use of the Internet in business on the industry is the emergence of new web-based intermediaries, often referred to as infomediaries (Broens et al., 1999) or hypermediaries (Golicic and Davis, 2003).

These new players run digital marketplaces – Transportation Electronic Marketplaces<sup>1</sup> (TEMs) - that aggregate buyers and sellers of transportation services and facilitate transactions between them.

During the “dot.com boom” in the late 1990s-early 2000s there was a proliferation of transportation electronic marketplaces, holding out the promise of operating efficiencies in the market and integrating transportation more dynamically into supply chain operations (Hoffman, 2000). Attracted by the revolutionary potential of the Internet, a variety of electronic marketplaces for transportation services has developed, each with its own range of transaction mechanisms and additional facilities. Despite claims of significant value creation opportunities, many initiatives in the field failed to attract the sufficient mass of market participants to sustain their operations and ceased trading. A period of consolidation is recognised to have begun, which is forecasted to result in the survival of only few marketplaces, forcing the rest into acquisition or closure (Wise and Brennan, 2000). At the moment it is unclear what the future might hold for these intermediaries and how they will achieve to build long term profitability as well as industry acceptance.

In this problematic scenario, marked by many bankruptcies, mergers and acquisitions within the population of TEMs, some initiatives established in the early years of development of this new industry survived the market downturn started in the late 2000 and are still operational as transportation electronic marketplaces. This suggests the opportunity to explore their business model to find out the potential features positively affecting their capability to survive in a period of fierce competition and consolidation.

The purpose of this paper is to gain a deeper understanding of different characteristics of business models of transportation electronic marketplaces and their potential relevance with regard to long term viability of these marketplaces. To this end, a reference framework encompassing several descriptive dimensions of TEMs business models is identified through an extensive literature review. Such frame has been used to analyse a sample of marketplaces that are currently operating on the Internet.

The remainder of this article is organised as follows. The next section provides a brief overview of the trends that have characterised this new industry since its development, focusing on the main drawbacks of TEMs proposition. It is highlighted that despite the high rates of failure characterising transportation electronic marketplaces some early-established initiatives survived the market bust, suggesting the opportunity to explore their business model. In section 3, research objective and methodology

---

<sup>1</sup> Terms used in the literature and business practice to refer to electronic marketplaces for transportation services are various: online freight exchanges, electronic transport exchanges, online freight marketplaces, logistics e-Marketplaces are only a few. In this paper it has been chosen to refer to them as Transportation Electronic Marketplaces (TEMs)

are described, introducing the reference framework used for the analysis of a sample of TEMs. Section 4 presents the preliminary research findings. In the final section, conclusions are drawn on the basis of the survey results.

## **2. The development of electronic marketplaces in the transportation industry: potential and reality**

The rapid development of Information and Communication Technology (ICT) and related e-commerce applications supported the rise of new information intermediaries (infomediaries) in the freight transportation industry that run electronic marketplaces aiming at conferring greater efficiency and information transparency to the transport business (Evangelista, 2002). The basic role of these marketplaces is to bring multiple carriers and shippers together in a virtual market space and provide software, tools and services to facilitate communication and transactions between them.

The role played by TEMs in aggregation and facilitation of demand and supply of transportation services may result in a wide range of benefits both for shippers and carriers in several areas of their respective businesses. First of all, there are the advantages of improved transactions. On the one hand, for shippers, participation in a transportation electronic marketplace should result in access to greater transportation capacity, increased price transparency and savings on purchasing costs stemming from the increased competition in the supply market. On the other, TEMs allow carriers access to greater customer base and new distribution channels, enforcing their market coverage and reducing their marketing and sales costs. In addition, through real-time access to a larger shipping base, carriers can benefit from a significant reduction of empty backhauls, thus improving utilisation of their transportation assets. Finally, the gains stemming from automation of internal processes (process efficiency, staff reduction, time savings, improved quality of information flows, etc.) and from access to technological upgrading without high initial investments must also be considered.

These benefits were heavily promoted in the late 1990s, when first initiatives in the field started to develop<sup>2</sup>. In a short time the industry as a whole witnessed a tremendous rise in number of electronic marketplaces for transportation services. By 2000, no less than 75 marketplaces worldwide populated the electronic transportation environment (Foster, 2000). One year later, there were 236 TEMs operating on the e-market (e.logistics Magazine, 2001).

---

<sup>2</sup> The basic concept of transportation electronic marketplaces, however, dates back to the 1970s when the German institution SVG developed a database containing information about supply (cargo) and demand (freight) that could be accessed by participants through contacting an operator by phone (Alt and Klein, 1998). With the advent of the Internet, many of the existing systems offering load-matching services via phone or videotext switched to the new communication infrastructure and many new web-based operators have been initiated in order to exploit the potentials of universal access, wider scope of applications and low technical investments offered by the new medium.

At a similar pace to its rise, however, the industry has soon started to consolidate. Many of the marketplaces created in the late 1990s have had to cease operations or merge with other industry players due to the difficulties faced in aggregating a sufficient mass of participants. Evidence of this decline in the number of TEMs is given comparing the population identified by *e.logistics Magazine* on 2001 (comprising 236 marketplaces) with the number of marketplaces operating on the web on January 2005. It has been found that only 104 TEMs are still working, whereas the rest of them ceased trading or has been acquired or merged.

The mismatch between the value creation potential and the actual demise of marketplaces for transportation services can be brought back to several drawbacks in the proposition of TEMs that seem to have exceeded the attractiveness of the potential advantages.

At the sell side of the market, carriers have been reluctant to participate due to the high pricing pressures stemming from the greater information availability created by the marketplaces. Beyond the ease of price comparisons, also the use of reverse auctions to close transactions with shippers is likely to significantly reduce the profit margins of carriers. Moreover, participating in such marketplaces may negatively affect the pricing strategy of the carrier, as lower prices sold online may undermine the contract prices (Chow, 2001).

From the shippers' perspective, the spot nature of transactions in the marketplace is not consistent with the emphasis on stable relationships with providers that mostly characterises the procurement of transportation and logistics services. It has been noted that while for years buyers have moved towards a consolidation of the supplier base and a stronger emphasis on long-term, collaborative relationships with transportation providers, TEMs are driving in the opposite direction, by extending the supplier base and fostering price-based competition (Pompeo and Goulmy, 2001). The vast majority of transport rates are negotiated under long-term contracts that secure several aspects of service level beyond price for the procurement of transportation services. In this respect it becomes clear that as quality requirements for logistics services are increasing (accurate timing, treatment of shipment, etc.), shippers are less inclined to hand their shipments to unknown carriers (Alt and Klein, 1998).

Other factors inhibiting a more extensive use of TEMs concern technological issues of these marketplaces. In the rush to enter the market, many operators have devoted inadequate attention and investments to enabling technologies, which have then proved to be among the main inhibitors of wider participation. Not only adoption is hindered as often marketplaces systems are not fully compatible and interoperable with legacy information management systems of shippers and carriers, but also perceived lack of security with regard to sensitive commercial information represents one of the major hindrances for TEMs. Moreover, it is suggested that another possible factor contributing to the relatively low use of these portals relates to the their poor quality in terms of navigability, content comprehensibility and quality and grade of interaction (Esposito et al., 2004).

Despite the high rates of failure experienced by many transportation electronic marketplaces, some initiatives established in the early years of development of this industry survived the market downturn started in the late 2000 and are currently operating on the Internet. This suggests to explore their business models to gain understanding of features potentially contributing to their viability.

### **3. Objective and methodology**

The analysis described in this paper is part of an ongoing research project aimed at analysing the competitive positioning of transportation electronic marketplaces. The specific aim of this first stage of the research is to analyse the business models of transportation electronic marketplaces in order to identify the factors potentially contributing to their viability in the long term. Business models of TEMs, thus, are assumed as the main focus in analysing the viability of these marketplaces.

In order to meet this specific aim, a framework is needed that encompasses all the relevant elements of TEMs business models. In this respect, the extremely dynamic nature of the online transportation environment makes it difficult to set-up a comprehensive model that would give insight into the number of characterising elements of TEMs' business. Indeed, the growth of TEMs in the last years has resulted in a variety of initiatives that refer to several different types of websites. In addition, the spread of electronic business supported the proliferation of a large array of other online companies targeted at improving transport-related activities through a variety of offerings - ranging from transportation management software, electronic documentation, insurance services to equipment joint-purchasing - and often the dividing lines between them and TEMs are somewhat blurred (Regan and Song, 2001). Nevertheless, a review of relevant literature on B2B marketplaces in general, and TEMs in particular, allowed the development of a reference framework for TEMs business models, which is described in the following section.

#### **3.1. A reference framework for TEMs business models**

The review of literature allows to identify the following five dimensions of TEMs business models (table 1):

- Type of operator
- Bias
- Market focus
- Transaction operating mechanism
- Source of revenue

The combination of these five dimensions determines the configuration of several distinct business models of TEMs.

*Table 1: Descriptive dimensions of the business model for transportation electronic marketplaces*

<i>Dimensions</i>						
	Type of operator	Bias	Market focus		Transaction operating mechanism	Source of revenue
<i>Attributes of TEM</i>	<ul style="list-style-type: none"> <li>• Public</li> <li>• Private</li> <li>• Consortia</li> </ul>	<ul style="list-style-type: none"> <li>• Neutral</li> <li>• Biased</li> </ul>	<ul style="list-style-type: none"> <li>• Horizontal</li> <li>• Vertical</li> </ul>	<ul style="list-style-type: none"> <li>• Road</li> <li>• Air</li> <li>• Rail</li> <li>• Sea</li> <li>• Multimodal</li> </ul>	<ul style="list-style-type: none"> <li>• Request for Quote (RFQ)</li> <li>• Auction (English/Reverse)</li> <li>• Exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Transaction fees</li> <li>• Subscription/ membership fees</li> <li>• Advertising revenues</li> <li>• Value-added services</li> <li>• Software sales and licenses</li> </ul>

The first dimension concerns the type of operator running the electronic marketplace, which can be an autonomous operator, a group of market participants (consortia) or a single service provider (Grieger, 2003). Early initiatives in this field have been predominantly undertaken by independent companies acting as third parties between buyers and sellers of transportation services. These are generally referred to as “public” marketplaces in that participation is open to all potential carriers and shippers. As the number of public marketplaces increased, incumbents reacted against the invading industry outsiders developing their own “private” marketplaces to achieve in depth integration and automate transactions with their existing customers (shippers), as in the cases of C.H. Robinson and Ryder Logistics, two major logistics providers in the U.S. Other traditional providers joined forces to set up consortia bringing along their networks of customers and partners to fight back against the invasion of public TEMs. Among the main initiatives in this respect are the two portals - INTTRA and GT Nexus - formed by groups of liner shipping companies and Rail Marketplace, founded by a consortium of the leading freight railroads in North America. The three typologies of marketplaces identified according to this dimension – public, private and consortia – significantly differ with regard to the type of relationships between participants. While private and consortia TEMs support long-term committed relations, in public marketplaces relationships have typically a spot nature.

Another important characteristic of a marketplace is its bias, according to which a basic distinction is made between neutral or biased marketplaces (Kaplan and Sawhney, 2000). The first type of marketplace ensures that the interest of none of the participants at the buy side as well as at the sell side predominates, while the latter acts in favour of one of the two counterparts (buyer-biased or seller-biased). In this respect, private and consortia TEMs are generally biased towards their owner(s) whereas public TEMs are assumed to be equidistant from both sides of the market. Also transportation electronic marketplaces run by independent third parties, however, may be to some extent biased, as in the case of those using reverse auctions for the matching between demand and supply (carriers bid low prices to win the business from the shipper) that lead prices downwards, thus primarily favouring shippers.

The market focus is further dimension for categorizing B2B electronic marketplaces and it distinguishes between vertical and horizontal marketplaces (Barratt and Rosdahl, 2002), with the first type serving only a specific industry and the latter providing goods and services to different industries. In this respect transportation electronic marketplaces are viewed as inherently horizontal, in that they have applications in numerous industries (Coleman, 2000; Clements, 2003). Despite their horizontal nature, however, it ought to be recognised that TEMs can also be vertical, in that they can be focused on particular industries instead of providing their services across different industries. Examples of vertical TEMs are Bulknet.com and FOBDesk.com, which specialise in the chemical industry, and NextStop, catering for the transport needs of the food industry. Apart from the horizontal vs. vertical distinction, this dimension includes also the mode focus of the marketplace. In this respect, most TEMs are specialised on a single mode of transportation, with few of them providing services across different modes. Currently, the vast majority of transportation electronic marketplaces focus exclusively on road haulage<sup>3</sup>; by contrast, the more concentrated air, ocean and rail segments show a lesser penetration of TEMs. Moreover, some electronic marketplaces have been set up to meet the special needs of unique segments of the market, as in the case of Coolload, a TEM specialised in refrigerated transport.

Another important element is represented by the transaction operating mechanisms (Ordanini and Pol, 2001). Transportation electronic marketplaces may implement one or more of the following mechanisms to operate transactions between carriers and shippers: Request for Quote (RFQ), auctions and exchange. At the most simplistic level, TEMs can allow their participants (carriers and shippers) to advertise their loads/available capacity by posting a specific request in the expectation of being contacted by a counterpart. Transactions take place after the user has browsed the system and identified a counterpart with a request meeting his requirements. In this case the marketplace's function is to consolidate information regarding specific requests (type of commodity, shipment volume, shipment origin/destination, pick-up and delivery information, temperature control requirements, etc.), acting as a passive bulletin board (Clements, 2003). With regard to the auction mechanism, among the most common formats used in transportation electronic marketplaces are the seller-driven (English) auction, based on the conventional auction house method, and the buyer-driven or

---

<sup>3</sup> The prevalence of road haulage as mode of choice among TEMs is confirmed by a survey carried out by Bear Stearns on the top 54 horizontal freight transportation sites, which found that three quarters of them focus on one mode of transportation with 61 percent of the marketplaces focusing on truck freight (Foster, 2000).

<sup>4</sup> Both English and reverse auctions may be organized as public or private auctions. The first type is open to qualified participants that are pre-approved by the exchange and meet the parameters specified by the user for the particular auction. A private auction is a closed, invitation-only type of auction, involving private communities, an example of which can be found among the transaction mechanisms implemented by Freight Traders.

reverse auction<sup>4</sup>. In the latter the bidding process starts with the shipper posting a load and specifying some selection criteria (type of commodity, weight, shipment origin/destination, etc.) and the expiry term of the transaction. Interested carriers with capacity available to cover the load then reply with a bid and the lowest bid wins the opportunity to serve. As mentioned earlier, this mechanism makes prices proceed downwards in favour of shippers while causing significant reduction of carriers' margins. Another transaction mechanism is the exchange, which resembles the traditional stock exchange model. In this system carriers and shippers simultaneously negotiate prices through a real-time bid and ask system with no time restriction.

Finally, TEMs can differ also according to their source of revenue - meant as a specific mode in which a business model enables revenue generation (Amit and Zott, 2001) - which could act as an important determinant of their success (Gudmundsson and Walczuck, 1999). The most common sources of revenue for marketplaces are (Stockdale and Standing, 2002):

- transaction fees, that represent a percentage of the gross amount of each transaction conducted throughout the marketplace and can be charged to the carriers, to the shippers (as in the case of reverse auctions) or to both;
- subscription or membership fees, which are generally collected in advance from registered users on a monthly or annual basis;
- advertising revenues, which are mainly used in marketplaces offering community features such as news, forums, directories and other content;
- fees for value-added services, that may include credit, payment guarantee, tracking and tracing, insurance of in-transit materials, consulting services, etc;
- software sales and licenses.

Transportation electronic marketplaces may rely on one or more of the above revenue sources.

The identified dimensions characterise the business model of transportation electronic marketplaces and have been used to analyse in detail a sample of TEMs, which is described in the following section of the paper.



### 3.2. Sample definition

The sample for the qualitative analysis of TEMs comprises 11 marketplaces (table 2) that have been identified using the following criteria:

- a. the TEM must be a public marketplace;
- b. its proposition must be primarily targeted towards the aggregation and matching of supply and demand of transportation services;
- c. the TEM must have been set up before 2000 and be currently operational.

Table 2: Overview of examined TEMs

<i>Name</i>	<i>Year estab.</i>	<i>Origin Country</i>	<i>Market focus</i>	<i>Web address</i>
<i>eLogistics</i>	1999	UK	Road	www.elogistics.com
<i>Freightgate</i>	1999	USA	Road, ocean, air	www.freightgate.com
<i>FreightMatrix</i>	1999	USA	Road	www.freightmatrix.com
<i>Freightquote</i>	1998	USA	Multimodal	www.freightquote.com
<i>Internet Truckstop</i>	1995	USA	Road	www.truckstop.com
<i>NTE</i>	1995	USA	Road	www.nte.com
<i>Nistevo</i>	1997	USA	Road, rail, ocean	www.nistevo.com
<i>Roadrunner</i>	1998	UK	Road	www.roadrunner.uk.com
<i>Teleroute</i>	1988 (1999)	Belgium	Road	www.teleroute.com
<i>Timocom</i>	1997	Germany	Road	www.timocom.de
<i>Wtransnet</i>	1997	Spain	Road	www.wtransnet.com

Rationale for the above criteria are as follows:

- a. it is recognised that the bust in the electronic transportation market has primarily affected public marketplaces, mostly failing to achieve the transactional volumes necessary to survival. By contrast, private and consortia TEMs show a higher survival rate, explained by the fact that they build up leveraging a guaranteed source of transaction volume (Day et al., 2003) and therefore are less confronted with the difficulty in attracting the necessary critical mass of participants for desired transaction efficiency<sup>5</sup>. Accordingly, private and consortia marketplaces have been not included in the sample;
- b. beside TEMs, the electronic transportation market has been rapidly populated by a variety of online companies, most of them providing IT solutions for the transportation industry, others aggregating buying power to purchase transportation-related equipment and supplies at bulk rates over the Internet. While these players often include in their offering directories of logistics providers and

<sup>5</sup> In this respect our recognition of the marketplaces identified by e.logistics Magazine (2001) found that all private and consortia TEMs included in the population are still operational.

TEMs and some “match-making” services, their business model may significantly differ from those of pure public transportation electronic marketplaces and this provides motivation for excluding them from the analysis;

- c. the market downturn for TEMs is recognised to have begun in the late 2000, aggravated by the burst of the e-commerce “bubble”. This has led to exclude from the sample new emerging operators and consider only TEMs established before 2000 that are still operating.

To better clarify the definition of the sample size (table 3), it can be compared it with the population of TEMs identified by e.logistics Magazine in 2001:

- The original population comprised 236 marketplaces worldwide that provided information at a described URL.
- Out of 236 identified TEMs, we found out that 121 have ceased operations and 11 have been acquired, thus reducing original population to 104 TEMs.
- As the analysis was limited to public marketplaces the 11 private and the 3 consortia in the original population have not been considered.
- Other 27 online companies not primarily targeting to the matching between supply and demand of transportation services were excluded from the analysis.
- 7 public TEMs could not be considered in that their sites did not display the information about their activity necessary for the analysis and any other publicly available source was founded that provided information about them.
- As we limited the analysis to TEMs established before 2000, our sample represents about 10% of the population of operational TEMs by 2005.

*Table 3: Sample size*

Original population of TEMs on 2001	236
Operational TEMs on January 2005	104
Public TEMs	90
TEMs primarily targeted to demand and supply matching	63
TEMs with available information about their activity	56
<b>TEMs established before 2000</b>	<b>11</b>

TEMs in the sample have been analysed in detail according to the descriptive dimensions identified in section 3.1 and information about selected marketplaces was collected from several sources including companies’ websites, company reports, analyst reports, trade periodicals, press releases and other online resources. In the next section the preliminary findings of the analysis are presented.

#### 4. Preliminary findings

A first evidence emerged from the analysis concerns the type of relationships between participants supported by the marketplaces. Although they are all run by independent operators, examined TEMs appear to be more a hybrid of public and private model in that they allow participants to maintain existing long-term, collaborative relationships with trading partners along with spot relations. The coexistence of spot and long-term relationships that characterises these marketplaces is likely to significantly encourage participation in that it allows to combine the advantages of spot transactions for the allocation of excess capacity or extraordinary loads with the possibility to exploit the marketplace's platform for process automation and better integration with actual providers/customers, without the necessity of undertaking high IT investments. This hybrid model appears to be particularly valuable in addressing shippers' reluctance to shift large volumes of freight to the spot environment, which has proven to be among the main inhibitors of TEMs viability.

It is worth noting that the modalities by which TEMs support long-term relationships are to some extent diverse. Most marketplaces provide participants with the infrastructure to collaborate with their existing transportation partners, developing and hosting in their portal private areas exclusively dedicated to the transactions of a specific user (shipper/carrier) and its core providers/customers. A slightly different approach is showed by Nistevo, which allows shippers to form communities to share and coordinate shipping plans and purchase transportation services from their existing carriers and those of all other registered shippers. The system creates full visibility across multiple shippers and carriers and helps participants to find their best partners by scoring and ranking lane matches. In comparison to the previous model, based on the combination of open and private infrastructure within the marketplace, such an approach is recognised to be even more valuable for users in that it ensures full collaboration among participants to be achieved, meant as the dynamic combination of both vertical (between shippers and carriers) and horizontal (between shippers or between carriers) collaboration (Langley, 2001). The analysis brings into evidence that with regard to their transaction operating mechanism examined marketplaces do not implement auction formats, only relying on RFQ and/or exchange methods to operate transactions. While auction formats represent the most efficient means to close transactions (Goldsby and Eckert, 2003), competitive bidding results in a trend toward "commoditisation" of transportation and in high price pressures which discourage participation. The adoption of other mechanisms rather than the auction appears to be particularly relevant for TEMs' capability to reach critical mass when considering carriers' reluctance to participate due to their fear of having profit margins heavily eroded by bidding.

Moreover, as explained earlier, the use of auction formats is likely to affect TEMs bias, resulting in a benefit for only one side of the market, i.e. the shippers or the carriers. Thus, the implementation of other transaction mechanisms different than

the auction ensures marketplaces' neutral position, which is equally attractive to both carriers and shippers.

Finally, with regard to their source of revenue, the analysis has shown that income streams of considered players rest on a combination of subscription/transaction fees and revenue from value-added services, such as payment guarantee, insurance of in-transit materials, consulting services, tracking and tracing, shipment scheduling and other transportation management solutions, that are in most cases provided through partnerships with specialised providers and IT vendors. Through the supply of value-added services TEMs can increase participants' loyalty to the marketplace and shape their value proposition as targeting a wider range of process improvement gains beside mere transactional benefits. Moreover, by relying on profit also from value-added services they are more likely to achieve sufficient profitability beyond their effective liquidity.

## 5. Conclusions

The analysis described in this paper is part of an ongoing research project concerning the competitive positioning of electronic marketplaces in the transportation industry and was aimed at providing a first insight into TEMs business models and the relevance of their different characteristics could have with regard to long term viability. The preliminary findings of the research have brought to evidence that business models of examined marketplaces share some characteristics such as the type of relationships between participants supported by the marketplace, transaction operating mechanisms, bias and sources of revenue. These characteristics could have a positive impact to their survival.

Identified features, however, are not sufficient to develop a comprehensive framework that can encompass all the critical factors that are likely to ensure long term viability in the increasingly competitive environment of transportation electronic marketplaces.

Further investigation is needed with regard to TEMs market focus. In this respect, examined marketplaces show different orientations: while most of them are focused on a single mode of transport (namely road transport), three TEMs (Freightgate, Freightquote and Nistevo) handle freight transactions for different modes. Moreover, the horizontal vs. vertical focus needs to be considered. Though all marketplaces in the sample provide their service across different industries, the possibility has to be evaluated to target specific industries, by becoming, for example, exclusive partners of vertical B2B marketplaces. These considerations raise the need to explore if the opportunity to become specialised providers - focusing on a specific segment of the transportation industry and/or on a specific vertical industry - could improve prospects of long term viability for TEMs. Considering their market focus, the question arises if transportation electronic marketplaces need to enter new geographical markets to increase transaction

volumes or will the focus on their local market better lead the marketplace to durable profitability allowing to leverage deeper knowledge of the market.

Another major area for investigation concerns technological issues of marketplaces for transportation services. In this respect it has been suggested that performance of their technological platform, in terms of interoperability with legacy information management systems of participants, security and navigability, is often inadequate to users' requirements and discourages or even prevent carriers and shippers from taking part to the marketplace. Thus, further investigation is required to assess the solutions adopted by different marketplaces and their effective contribution in enabling participation.

Finally, there is the need to consider TEMs partnering practices with key players in the industry (major shippers and/or logistics service providers). While it is suggested that such exclusive relationships can help secure early liquidity as well as help gaining the trust of other players in the market (Brunn et al., 2002), they, however, are likely to affect the marketplace's bias favouring dominant positions at one side of the market.

## References

- [1] Alt R., Klein S. (1998), "Learning from failure: The myths and magic of electronic transportation markets", proceedings of the 31st Hawaii International Conference on System Sciences, IEEE Computer Society, Kohala Coast, Hawaii.
- [2] Amit, R., Zott, C. (2001), "Value creation in e-business", *Strategic Management Journal*, 22 (6-7), 493-520.
- [3] Barrat M., Rosdahl K. (2002), "Exploring business-to-business marketsites", *European Journal of Purchasing & Supply Management*, 8, 111-122
- [4] Broens D.F., Vanroye K., Demkes R. (1999), "E-commerce, supply chain management and intermodality", background paper for the 3rd EU-USA Forum on Freight Intermodalism, Boston, USA.
- [5] Brunn P., Jensen M., Skovgaard J. (2002), "e-Marketplaces: Crafting A Winning Strategy", *European Management Journal*, 20 (3), 286-298
- [6] Chow G. (2001), "E-Business Impact on Canadian Transportation", report prepared for Canada Transportation Act Review Panel, July, <http://www.reviewctaexamenlrc.gc.ca/CTARReview/CTARReview/english/reports/chow.pdf>
- [7] Clements B. (2003), "Some factors determining the success or failure of online freight exchanges", proceedings of the Logistics Research Network Annual Conference, "Enhancing Global Trade through Supply Chain Solutions", 10-12 September, London, UK.
- [8] Coleman P.V. (2000), "e-Logistics: The Back Office of the New Economy", Banc of America Securities Equity Research, eLogistics Industry Overview, March, [http://www.sauder.ubc.ca/bcom/course\\_resources/comm486c/docs/coleman\\_e-logistics3.pdf](http://www.sauder.ubc.ca/bcom/course_resources/comm486c/docs/coleman_e-logistics3.pdf)
- [9] Day G.S., Fein A.J., Ruppensberger G. (2003), "Shakeouts in Digital Markets: Lessons From B2b Exchanges", *California Management Review*, Winter, 131-150
- [10] *e.logistics Magazine* (2001), *Online freight exchanges – International Guide 2001*, Spice Court Publications Ltd., London, UK.
- [11] Esposito E., Evangelista P., Mastroianni M., Passaro R., Sweeney E., Wagner C.M. (2004), "A Multi-Criteria Approach to the Evaluation of Aviation e-Marketplace Portals", proceedings of Logistics Research Network Annual Conference, "Enhancing Competitive Advantage through Supply Chain Innovation", 8-10 September, Dublin, Ireland.
- [12] Evangelista P. (2002), "Information and Communication Technology Key Factor in Logistics and Freight Transport", in Ferrara G. and Morvillo A. (eds.), *Training in Logistics and Freight Transport Industry. The Experience of the European Project ADAPT-FIT*, Ashgate Publishing Ltd,

- London, UK, pp. 15-36.
- [13]Foster T.A. (2000), "A Click-to-Ship Road Map", *Global Logistics & Supply Chain Strategies*, August, Keller International Publishing, <http://www.supplychainbrain.com>
- [14]Goldsby T.J., Eckert J.A. (2003), "Electronic transportation marketplaces: a transaction cost perspective", *Industrial Marketing Management*, 32, 187-198
- [15]Golobic S.L., Davis D.F. (2003), "Hypermediaries in the supply chain: For better or for worse?", *Business Horizons*, May-June, 77-82
- [16]Grieger M. (2003), "Electronic marketplaces: A literature review and a call for supply chain management research", *European Journal of Operational Research*, 144, 280-294
- [17]Gudmundsson S.V., Walczuck R. (1999), "The Development of Electronic Markets in Logistics", *The International Journal of Logistics Management*, 10 (2), 99-113
- [18]Hoffman K.C. (2000), "Transportation Needs Drive Creation of E-marketplaces", *Global Logistics & Supply Chain Strategies*, September, Keller International Publishing, <http://www.supplychainbrain.com>
- [19]Kaplan S., Sawhney M. (2000), "E-Hubs: The New B2b Marketplaces", *Harvard Business Review*, May-June, 97-103
- [20]Langley C.J. jr (2001), "Analising Internet Logistics Markets", *Global Logistics & Supply Chain Strategies*, October, Keller International Publishing, <http://www.supplychainbrain.com>
- [21]Ordanini A., Pol A. (2001), "Infomediatio and Competitive Advantage in B2b Digital Marketplaces", *European Management Journal*, 19 (3), 276-285
- [22]Pompeo L., Goulmy M. (2001), "Analyzing e-business in freight transport and logistics", *American Shipper*, September, 64-70
- [23]Regan A.C., Song J., (2001), "An industry in transition: third party logistics in the information age", paper given at the Transportation Research Board, 80th Annual Meeting, January, Washington DC, USA.
- [24]Stockdale R., Standing C. (2002), "A framework for the selection of electronic marketplaces: a content analysis approach", *Internet Research: Electronic Networking Applications And Policy*, 12 (3), 221-234
- [25]Wise D., Brennan J. (2000), "E-commerce – taking stock", *Containerisation International*, November, 81-85

Alessandra Marasco

## I modelli di business dei mercati virtuali nel settore dei servizi di trasporto merci: un'indagine empirica

### Sommario

Nonostante sia ancora in una fase emergente del ciclo di vita, il settore dei mercati virtuali per l'incontro tra domanda ed offerta di servizi di trasporto merci (nella terminologia anglosassone transportation electronic marketplaces) attraversa un difficile periodo di crisi, che ha portato in breve tempo al fallimento e alla scomparsa di un numero significativo di operatori. L'elevato tasso di mortalità che ha caratterizzato il recente sviluppo di questi nuovi intermediari giustifica l'interesse per la loro sopravvivenza nel lungo termine di questi operatori. Il presente lavoro è parte di una ricerca finalizzata ad analizzare le scelte strategiche ed il posizionamento competitivo dei transportation electronic marketplaces; esso è focalizzato sulle caratteristiche dei modelli di business di questi mercati virtuali e sulla loro rilevanza strategica nel lungo periodo. In particolare, il lavoro identifica un framework descrittivo delle diverse dimensioni dei modelli di business considerati dalla letteratura. Tale framework è stato poi applicato ad un campione significativo di operatori. I risultati dell'analisi evidenziano alcune caratteristiche comuni dei modelli di business dei mercati virtuali esaminati, potenzialmente in grado di contribuire alla loro sopravvivenza nel lungo periodo.

**Parole chiave:** infomediari, transportation electronic marketplaces, ridimensionamento del mercato, modello di business

## Poslovni modeli virtualnih tržišta prijevoza - empiričko istraživanje

### Sažetak

Unatoč tek kratkoj povijesti razvoja, elektronička tržišta prijevoza, već prolaze teško razdoblje konsolidiranja koje mnoga od njih prisiljava na prekid poslovanja ili spajanje s akterima drugih industrijskih grana. Veliki broj poslovnih neuspjeha koje je doživjela većina tih novih na web-stranici utemeljenih posrednika opravdava zanimanje za njihov budući opstanak. Ovaj rad je dio aktualnog istraživanja o strateškim izborima i konkurentnom pozicioniranju elektronskih tržišta prijevoza i ima cilj omogućiti prvi uvid u značajke poslovnih modela tih posrednika i njihove potencijalne relevantnosti za dugoročni opstanak. Putem šireg pregleda literature, ovaj rad prepoznaje okvir koji obuhvaća više opisnih dimenzija poslovnih modela za elektronička tržišta prijevoza. Taj okvir se primjenjuje na ogledna tržišta. Rezultati analize dokazuju neke zajedničke značajke poslovnih modela ispitanih tržišta koja će vjerojatno pozitivno utjecati na njihovu sposobnost preživljavanja u sadašnjem trenutku snažne konkurencije i konsolidacije.

**Ključne riječi:** informatički posrednici, elektronička tržišta prijevoza, konsolidacija tržišta, poslovni model

