

# Envisioning E-logistics Developments In Turkey On The Way of Accession To The EU: A Focus Group Study

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## **Abstract**

Effective uses of information technologies make the logistics companies more competitive, supporting every stage of their operations. Also rapid growth of e-commerce increases both firms' and individuals' demands on e-logistics services. Therefore this research focuses on e-logistics developments in Turkey mainly in the light of its relations with the EU. Turkey is a candidate country of the EU and e-logistics is a new concept for Turkey. For both reason Turkey adapts the EU rules in enactment process of this sector. Investigating the major drivers that encourage an emergence of e-logistics in Turkey, a focus group interview is used in this study. It was found that e-logistics has a positive progress in Turkey, in spite of that country's legal infrastructure and organizational structures of logistics companies are not fully ready to answer demands of e-logistics facilities yet. Research findings show that foreign logistics firms, invested in Turkey, are the main e-logistics operators and more successful in this terms, comparing with domestic ones.

**Keywords:** EU, E-logistics, Focus group interview, Internet, Turkey

## **Introduction**

Active processes of integration, globalization, development of distribution networks, reduction of product life cycles, the growth of "deliveries on time" causes the necessity of the use of modern logistics approaches. Intensive growth of the competitive environment also contributes to this. It encourages most companies to seek new technologies, which control the key processes of business. And the priority belongs to the concept of supply chain management, based on usage of modern information technologies in the new economy. Effective information management is the cooperation between all participants in the supply chain, based on rapid and complete transmission of the information flow. It helps to reduce expenses and time, to respond quickly to customer needs, to improve their level of service, and generally to improve the competitiveness of the supply chain. On the other hand, there is a close interdependence between science and technology and economic activities, as well as logistics. The nature of global economy enforce the sectors to find new solutions in order to compete on the markets, also new technological developments provide a number of opportunities for companies to improve their service quality. So, this positive interdependence causes the integration of information technology effectively into the logistic functions. Speedup, ease and increase of

reliability in the information sharing, has brought many positive effects along with, like, effective usage of time in logistics firms, saving in costs, effective management forms and etc. Logistics is one of the company's main cost items. As in every sector, the logistics sector, influenced by scientific and technological developments and increases in customer awareness in recent years, also has to keep pace with these changes. Effective IT becomes necessary to support logistics processes. IT helps automate routine logistics activities, thus enabling managers to focus on strategic issues and core competencies (Saatcioglu et al, 2009). On the other hand, with the e-commerce not only the way goods are sold is changed completely, but also the procedure how they are delivered. In the background of this revolution stays the use of Internet tools, letting realization of electronic transactions with partners in supply chain (Cho and Ozment, 2005). Today's online customers – whether they are consumers or businesses – want to be able to own their orders instantly from the moment they click the “buy” and “pay” buttons (Bayles, 2002). Globalization of trade, technological developments and innovations as well as stronger competitions and non-stock preferences of customers have caused big changes on every stage of supply chain, especially shortening the time of order's delivery (Angheluta and Costea, 2010). In this context, e-logistics became one of the most important dynamics of e-commerce.

Turkey is the world's 17th and the Europe's 6th economy with 74 million young and dynamic population (MFA, 2014). After the **decisions** made on **January 24, 1980**, that marked Turkey's shift from “mixed capitalism” to a free market economy, local production increased rapidly (Muftuoglu, 2011). Being a part of global economy enforced Turkey to follow the technological developments closely. On the other hand, starting of membership negotiations with the EU, harmonization actions within this context, has increased the technological investments of Turkish logistics companies. Using information systems, Turkish logistics companies recognized the advantages of technology. So, today a large number of logistics facilities is realizing with the several software solutions. With the expansion of Internet usage, the e-commerce sector in Turkey has flourished over the past five years. The growth of share of e-commerce in trade in general (all over the world and Turkey) has caused a need of an online access to logistic services.

Reviewing the literature on e-logistics concept in the first section, the second section of this study describes the EU's legal framework on e-logistics functions. Next section puts forward the factors that make necessarily a development of e-logistics in Turkey. The fourth part lays out the theoretical framework that the study is based on, focusing on the research methodology. The last section presents the findings followed by discussions and conclusions as well as suggestions for further researches.

## **1. Literature Review**

Information systems perform three vital roles in any type of organization: they support business operations, managerial decision making, and strategic competitive advantage (Saatcioglu et al., 2009).

Today Internet enables both individuals and organizations to access unlimitedly to every point of the world. In new era science, technology and innovation, including increased access to and sustainable use of information and communication technologies are the essential components of promoting development. It is predicted that the Internet and especially the use of mobile

applications will expand exponentially in the decades ahead. There is enormous potential for using ICT to contribute to the social and economic progress of developing countries worldwide (Singh, 2000). Furthermore, the Internet makes it possible to connect all information flow and physical material flow within a single supply chain, which creates new challenges for enterprises (Auramo et al., 2002). Current global economy is under the influence of Internet revolution (Castells, 2010). This revolution is so deep that new technology brings new terms to use, such as “E-commerce”, “E-business”, “E-logistics” and etc.

E-logistics is a new term for academic studies and there are limited researches on this subject in the literature. The term has been widely used in EC policy documents and Framework Programme Seven first research calls. It is not clear if the term has wide acceptance and is written in many different ways (e.g. E-logistics, E-logistics, eLogistics, Elogistics) (Islam and Zunder, 2013). This paper adopts the terminology “e-logistics”.

Stratton (2001) defined the logistics as “an operational process that includes inputting, storing, transporting and distributing physical goods”, whereas Gunasekaran and Ngai (2003) described the e-logistics as “an Internet-enabled logistics value chain designed to offer competitive logistics services including public warehousing, contract warehousing, transportation management, distribution management, freight consolidation”. The key component in the setting-up of an e-logistics system is developing a logistics community network with suitable Internet technologies (Gunasekaran et al., 2007). One possible definition is that e-logistics simply means processes necessary to transfer the goods sold over the Internet to the customers (Auramo et al., 2002). Ross (2002) argues that e-logistics can be described as a critical enabler of both e-business and e-commerce. Because it utilizes the integrative and collaborative capabilities found in the Internet to manage processes, e-logistics can be said to be directly a component of e-business. Because it can provide the technologies to execute Web-generated requirements for product fulfillment and supply channel information, e-logistics is a fundamental driver of e-commerce. Organizations realize that a strong supporting logistics or electronic logistics (e-logistics) function is an important organizational offering from both the commercial and the consumer perspective. The implications of e-logistics models and practices cover the forward and reverse logistics functions of organizations (Sarkis et al., 2004). Bayles (2002) explained that e-logistics is applying the concepts of logistics electronically to those aspects of business conducted via the Internet. Current literature elaborates on correct information for successful e-logistics. Caglar (2001) suggested that information is the most important factor of modern business. Namely the companies with high performance differ from other firms with their qualified knowledge about customers and management of them. An e-logistics is a electronic based logistics, realizing with the input of these information into the system. In other words, e-logistics is the usage of systems based on Internet technologies in order to realize the processes (Wang and Chen, 2006). Activities of e-logistics are supported with information technologies. Therefore e-logistics includes more information and more service than traditional logistics. Barcik and Jakubiec (2012) showed the electronic data interchange as a one of the fundamental tool of supporting business processes so that it has caused epoch-making change for clients’ values – independent access to information about products’ flow and localization of supply chain’s partners. Investigating e-commerce and its consequences for the logistics industry, Hultkrantz and Lumsden (2001) found that logistics is heavily dependent on how marketing channels will develop as a result of e-commerce and the

roles that will be played by various actors in the marketing channels for the future. This in turn has a direct influence on how the physical flows will be designed to cope with the increased complexity (from the logistics point of view) resulting from more deliveries to more final destinations and will have an effect on the volume of transportation and hence the environment. It is very clear that the basic objective of e-logistics is to convert the existing paper-based business processes into being electronic ones just as E-commerce has been trying to improve the manual and duplicate jobs into system driven automated process (APEC, 2005). In e-commerce, trade relevant paper documents such as invoice, packing list and purchasing order are being gradually exchanged with trading partners by EDI messages and other data format. Taser (2013) suggested that data, information and knowledge are the main drivers of e-logistics and proper use of all these three components provides the following utilities for logistics companies in general:

- rapid access to data;
- better customer service;
- less paper and documentation;
- better communication;
- increase in process effectivity;
- progress in traceability;
- automation of billing;
- decrease in costs;
- competitive advantage.

Wang's and Chan's (2006) findings indicate that e-logistics system can be described from process, information system and value. The process consists of five sub-processes: request for quotes process, packaging process, shipping process, tracking process and evaluation process. The first three are very basic processes of e-logistics system and all logistics service providers utilize them. The difference in companies' performances appears during the last two processes. The large and experienced global logistics service providers emphasize on packaging process since they are trying to optimize all detail processes of their e-logistics system. While the local and young ones go into deeper level by applying evaluation processes into their e-logistics systems, because they need to implement continual improvement. The information system can be divided into four sub-systems as planning system, execution system, research and intelligence system, reports and outputs system. The result of these five sub-processes and four sub-systems is a value, created by e-logistics system. This value may be time utility, revenue, operating costs savings, customer costs savings, tax costs savings, administration costs savings, and supplier costs savings (Hardcastle, 2008).

The increasing use of electronic commerce and enterprise resource planning and other logistics information systems tools and techniques will shape the business process for the foreseeable future. An e-logistics can improve the overall responsiveness of supply chains and create a new source of advantage to ensure competitiveness in today's enterprises. (Wang et al., 2004). Angheluta and Costea (2010) argue that logistics service providers must consider changing their traditional logistics system into an e-logistics system in order to accommodate to the dynamic changes in the commercial world.

## 2. Main Reasons of E-logistics Developments In Turkey

Logistics and transportation market in Turkey is growing rapidly due to both local dynamics such as increase in international trade and external dynamics such as foreign investments and EU integration process (Saatcioglu et al., 2009). Additionally, globalization of world economy not only allows to traditional, but also virtual trade of goods between countries through the technological and innovative tools. Turkey has a **population** of approximately **74 million, where 33 million of them are the active Internet users**. Considering the population of Turkey and the rate of Internet users, it is not a surprise that e-commerce volume increased by 35.3% in 2012 compared with 2011 in Turkey (*The Interbank Card Center, 2012*). These developments resulted an expansion of e-logistics implementations.

### 2.1. An Expansion of E-commerce

Turkey is assessed as one of the emerging e-commerce markets of Europe (Europe B2C Ecommerce Report 2013). The e-commerce sector in Turkey has flourished over the past five years, catching the eye of leading international investors and e-commerce giants. Online trade via bank cards was worth 31 billion Turkish Liras in 2012, and it is estimated to rise to 62 billion Turkish Liras by 2015 and to 316 billion Turkish Liras by 2023 (E-commerce Enterprises Association, 2013 ETID).

**Table 1: Top 5 Emerging Countries In Percentage Growth In 2012**

NO	COUNTRY	E-sales 2012
1.	Turkey	%75
2.	Greece	%61
3.	Ukraine	%41
4.	Hungary	%35
5.	Romania	%33

**Source:** Ecommerce Europe, E-sales of Goods and Services, 2013

According to the Turkish Statistical Institute (2013), %48,9 of Turkey’s population use Internet and one of each four Internet users did the online shopping in 2013. The rate of Internet users’ online shopping of goods and services for the purpose of private needs is %24,1. This rate was %21,8 in 2012. Within the period from April 2012 to March 2013 %48,6 of online shoppers purchased wear and sports equipments, %25,8 electronic tools, %25,6 home items, %20 travel services excluding accommodation, %15,9 books, magazines, newspapers including e-books, %15,7 foods and other daily needs. Women tend to seek decoration and clothing, while men tend to seek functionality and gadgets. The largest cities consume the most. Statistics shows that the rate of Internet users is %58 in urban areas, however, this rate is %28,6 in rural areas. These rates explain the reason of Tuna’s (2013) statement about that %25 of e-commerce goods is purchasing in Istanbul.

In spite of legal gaps, e-commerce in Turkey develops day by day according to the technological changes, as noted. Especially, in the last years smart phones and computers enable to shop online easily (Report of Ministry of Development of Republic of Turkey 2013). Another main factor of expansion of e-commerce in Turkey is the stores' price policies. This is clear that every store, regardless of what it sales, should has an area, where exhibits and sales its goods. At the present time, stores are aggregated mostly in shopping centers and spend too much money for renting, decor and design. Of course, all these increase the costs of stores in total. In order to decrease their costs, stores set up websites and promote the online shopping, making remarkable discounts (Kikovska-Georgievska 2013).

Secondly, websites provide an opportunity for stores to access to large mass. Online shopping increases the sale volume of stores so that customers, located far from shopping centers may buy their needs via Internet (<http://www.e-ticaret.gov.tr/> 2014).

## **2.2. Scientific and Technological Developments**

With the globalization, dimensions of an international trade changed, more competitive advantages for the players on this stage had been needed. Technological innovation is one of the best tools in order to catch the sustainability on the markets. Today it is impossible to achieve the competitiveness independently from contemporary IT systems. Turkey has long been and continues to be an advocate of raising science and technology to new heights, and has recently been engaged in a significant science, technology and innovation impetus with the vision to contribute to new knowledge and develop innovative technologies to improve the quality of life by transforming the former into products, processes and services for the benefit of the country and humanity (TUBITAK Report, 2011).

Following the financial crisis in 2001, and the elections in 2002, Turkey has managed to turn the tide of political and economic volatility to the current situation of relative stability and improved performance in a number of areas. GDP growth is up while inflation is down, and the conditions for doing business have been ameliorated. At the same time, changes in the global environment and rigorous requirements of a future EU accession have necessitated a greater focus on enhancing innovation and securing long-term competitiveness in the Turkish economy. The rising importance of being able to access, transform and exchange knowledge, coupled with Turkey's priority of becoming a member in the European Union, has led to a number of assessments and reviews of Turkey's situation in regards to innovation policies – and their impact on firms' ability to innovate and grow (Napier, Schwaag Serger and Wise Hansson, 2004).

Over the last decade, Turkey's GDP has grown significantly, prompting the government to increase its R&D spending. Turkey increased its research and development expenditure from 0.58 percent of GDP in 2006 to 0.92 percent in 2012, according to the Turkish Statistical Institute (2013). As showed below, GDP R&D expenditures increased 17% in 2012 in comparison to 2011 and was 13.062 Million Turkish Lira.



**Table 2: Expenditures On Research and Development Activities In Turkey (2006-2012, Turkish Lira)**

Expenditures	2006	2007	2008	2009	2010	2011	2012
GDP R&D Expenditures %	0,58	0,72	0,73	0,85	0,84	0,86	0,92
Total R&D Expenditure	4 399 880 662	6 091 178 492	6 893 048 199	8 087 452 600	9 267 589 617	11 154 149 797	13 062 263 394
Business Enterprises	1 629 087 642	2 513 487 115	3 048 503 098	3 235 272 345	3 942 908 434	4 817 272 485	5 891 214 749
Government	513 803 475	642 841 769	823 650 071	1 016 522 342	1 060 683 036	1 263 503 530	1 436 923 417
Higher Education Sector	2 256 989 544	2 934 849 608	3 020 895 031	3 835 657 913	4 263 998 147	5 073 373 782	5 734 125 228

**Source:** Turkish Statistical Institute, 2013

In 2012 45,1% of R&D expenditures was made by business sector, 43,9% was made by higher education sector and 11% was made by public sector. Business sector had a greater share of R&D expenditures in 2012 with 5.891 Million Turkish Lira (TSI, 2013). As mentioned before, integration of Turkish companies with the world economy and conditions of competition in both internal and international markets are making necessary to develop new innovative technologies for sustainability. While Turkish companies do well in absorbing the latest technology, a stronger focus on innovation-led investments and innovative products would provide important impetus towards improving long-term productivity and could be leveraged by its solid enterprise environment (World Economic Forum Report, 2012).

Promoting innovative entrepreneurship and technological/ innovation-driven research is one of the Turkish government's vital aspects of science, technology and innovation policy mix. Following the technological and innovative changes in knowledge and business, Turkey developed an e-govenment system. With this system it is possible to access to all public services online by one website. An e-government system presents a wide range of easinesses on public services to citizens, companies and organizations (turkiye.gov.tr, 2014).

### 2.3. Turkey-EU Relations

Turkey has been a candidate for EU membership since 1999. The implementation of the customs union in 1995 marked a key moment in the trade relationship between the EU and Turkey. Trade and investment linkages between the EU and Turkey have deepened with bilateral trade between the EU and Turkey reaching US\$147 billion in 2012 making Turkey the EU's sixth largest trading partner and the EU Turkey's biggest. The EU is the largest foreign

investor in Turkey, accounting for three-quarters of total foreign direct investment inflows during the last five years (World Bank Report, 2014).

On the other hand, today 820 million people live in Europe. 529 million people use Internet and 250 million people are e-shoppers. E-commerce is booming business in the European Union. The number of countries where e-commerce is a key contributor to gross domestic product, is growing rapidly, increasing its impact on economic growth and employment. The total Gross Domestic Product (GDP) of Europe in 2012 is estimated to have reached €16 trillion. The share of the European Internet economy is estimated at 3.5%, a percentage that is set to double by 2016 and to triple by 2020 given the fact that the Internet economy grows much faster than the economy in general. The number of jobs created directly and indirectly by the B2C e-commerce sector is estimated at 2 million in Europe (European B2C Ecommerce Report, 2012). These figures show also the hugeness of e-logistics sector of the EU. Because besides a sound commercial strategy, one of the most important key success factors in e-commerce is getting the ordered goods/products to the customer at the required service level and costs or in other words: e-logistics. The European Commission identified the delivery of online purchased goods as one of the top five priorities to boost e-commerce by 2015 (European B2C Ecommerce Report, 2012).

The delivery sector of the EU is subject to a variety of rules and regulations which have an effect on the way shipping and delivery can be arranged. The most relevant ones are described and assessed below:

**Table 3: The Current Regulatory Framework On E-Logistics In The EU**

Rule Name	Rule Aim and Rule Content In Short
Postal Directive 97/67/EC (as amended by Directives 2002/39/EC and 2008/6/EC)	<ul style="list-style-type: none"> <li>-guarantee a basic universal postal service;</li> <li>-quality standard, costs and prices, price regulation, information and data collection are directly and in most cases exclusively linked to the universal services obligation (USO);</li> <li>-does not fully cover the needs of consumers who buy online.</li> </ul>
Consumer Rights Directive 2011/83/EC	<ul style="list-style-type: none"> <li>-improve the service quality and consumer protection notably in the area of online shopping;</li> <li>-increase information and transparency about charges and costs, better refund rights, right of withdrawal.</li> </ul>
Competition Law	<ul style="list-style-type: none"> <li>-prevent and control the prevention, restriction or distortion of competition within the internal market.</li> </ul>
Services Directive 2006/123/EC	<ul style="list-style-type: none"> <li>-prohibition of discrimination in the general conditions of access to a service on the basis of the place of residence</li> </ul>



	<p>of the recipient;</p> <p>-ensure that particular information is always provided in an easily accessible manner to the service recipients.</p>
Transport and logistics related rules	-completion of an internal market for transport, environmental (e.g. de-carbonisation of the supply chain, reducing air pollution from motor vehicles) and security issues.
Other relevant rules:	<p>-urban planning, specific rules on traffic in city centres in order to reduce air pollution or to preserve their cultural heritage;</p> <p>-market surveillance;</p> <p>-VAT;</p> <p>-working conditions;</p> <p>-external trade, customs, security and other international issues.</p>

**Source:** Adapted from Green Paper dated on 29.11.2012

All these regulations on delivery sector are supported by legal framework on e-commerce. In this sense, Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce) created the basic legal framework for online services, including electronic commerce in the Internal Market.

One of the fundamental elements on which the EU-Turkey negotiations are carry out is the undertaking and applying the EU acquis (Ministry For EU Affairs Assession Negotiations 2014). Within this context, a Ministry of Economy works for the legislation about the regulations of e-commerce according to the EU regulations, including Electronic Commerce Directive 2000/31/EC of 8 June 2000. Currently customs rules, export-import rules, Consumer Protection Law, Electronic Communication Law, Electronic Signature Law form the legal infrastructure of e-commerce in Turkey (Ministry of Economy 2014). Each of these legal regulations was adapted with the EU acquis. In order to support e-commerce exports, Turkish Ministry of Economy opened a special Internet web site, which includes important information about e-commerce. Similarly, legal issues in e-logistics in Turkey are arranged with the several laws. Each of these laws mainly were adapted to the EU acquis.

**Table 4: The Current Regulatory Framework On E-Logistics In Turkey**

<b>Rule Name</b>	<b>Rule Aim and Rule Content In Short</b>
Road Transport Regulation	<ul style="list-style-type: none"> <li>-arrangement of road transport activities;</li> <li>-providing a security and safety of road transportations;</li> <li>-determination of rights, responsibilities and obligations of transport operators, their employees, senders and passangers;</li> <li>-determination of financial competence, professional competence and professional respectability conditions for transport operators;</li> <li>-determination of conditions for equipments, tools, vehicles, buildings and etc., using for road transportation.</li> </ul>
Road Transport Law No 4925	<ul style="list-style-type: none"> <li>-regulation of road transportations;</li> <li>-providing a security and safety of road transportations;</li> <li>-determination of conditions for road transportation services;</li> <li>-determination of conditions for personel, employing in road transportation sector.</li> </ul>
Road Transportation Activities Professional Competence Education Regulation	-definition of employees' professional competence, employing in transportation companies.
Aviation Directive 150.11/19.07.2005 Special Rules About The Tasks, Authorities And Responsibilities of Air Cargo Agencies	<ul style="list-style-type: none"> <li>-providing the safe air transportation of cargo according to the international standards;</li> <li>-regulation of tasks, authorities and responsibilities of air transportation companies and qualification and training conditions of their employees.</li> </ul>

Regulation 6A About Commercial Air Transport Operators	-regulation of commercial air transportation activities of companies, carrying passengers, cargo and postal despatches within Turkish air space or between Turkey and foreign countries.
Consumer Rights Law	-improve the service quality and consumer protection notably in the area of online shopping;  -increase information and transparency about charges and costs, better refund rights, right of withdrawal.
Competition Law	-prevent and control the prevention, restriction or distortion of competition within the internal market.
Legal regulations about postal services	-providing of qualified, sustainable and competitive postal services with affordable prices;  -recognition of legal rights for urgent cargo companies to follow customs procedures.

**Source:** Author

The EU's 2020 strategy is an important discussion framework for Turkey's both domestic policy and global competitive capacity also. With regards to the Europe 2020 strategy, Turkey performs close to the EU average in the area of enterprise environment, driven by intense local competition and low barriers to the creation of new businesses, as evidenced by a low number of procedures and limited amount of time it takes to start a business. Turkey has also experienced a notable improvement in its digital agenda since 2010, driven by increased government prioritization of ICT as further reflected in its progress in the use of government online services since 2010 (World Economic Forum Report, 2012).

#### **2.4. Integration To Global Economy**

A decision made on January 24, 1980 marked Turkey's shift from "mixed capitalism" to a free market economy. Turkey tapped into neo-liberal economic policies with the January 24 decision and took its part in the globalization process with these decisions (Muftuoglu, 2011).

The January 24 1980 decisions included a number of structural transformations like liberalization of foreign trade and encouragement of foreign investments. This governmental programme made possible to follow more liberal and export oriented economic policy. A few years after taking these decisions, the political developments on the world conjuncture had created important opportunities for Turkey's foreign trade. The collapse of Soviet Union opened a big market for Turkey not only in former USSR countries, but also in Eastern Europe. On the other hand, membership negotiations that had been started with the EU strengthened Turkey's economic and political image, reflecting onto country's foreign trade positively. As a major emerging economy and a member of NATO and the G20, Turkey is a key partner for the European Union. Turkey was a member of WTO (World Trade Organization) from 1995. Within

the context of integration with regional and international trade norms, Turkey is a member of OECD (Organization of Economic Cooperation and Development), UNCTAD (United Nations Conference on Trade and Development), BSEC (Organization of the Black Sea Economic Cooperation), WCO (World Customs Organization). Beginning from 1980, an importance of export increased qualitatively and quantitatively for Turkey, harmoniously with development policies, based on trade. Following these years, collapse of the Soviet Union and Turkish government's opening policies towards the Middle East and North Africa created new markets for Turkish goods and services. As a result of the integration with global economy, not only export, but import of Turkey also increased during past years (Table 1). A volume of foreign trade of Turkey was 389 006 877 USD in 2012, while this amount was 27 774 906 USD in 2000.

**Table 4: Turkey's Foreign Trade (Million \$)**

Years	Export		Import		Volume of Foreign Trade
	Value \$	Change %	Value \$	Change %	
2000	27 774 906	4,5	54 502 821	34,0	82 277 727
2001	31 334 216	12,8	41 399 083	-24,0	72 733 299
2002	36 059 089	15,1	51 553 797	24,5	87 612 886
2003	47 252 836	31,0	69 339 692	34,5	116 592 528
2004	63 167 153	33,7	97 539 766	40,7	160 706 919
2005	73 476 408	16,3	116 774 151	19,7	190 250 559
2006	85 534 676	16,4	139 576 174	19,5	225 110 850
2007	107 271 750	25,4	170 062 715	21,8	277 334 464
2008	132 027 196	23,1	201 963 574	18,8	333 990 770
2009	102 142 613	-22,6	140 928 421	-30,2	243 071 034
2010	113 883 219	11,5	185 544 332	31,7	299 427 551
2011	134 906 869	18,5	240 841 676	29,8	375 748 545
2012	152 461 737	13,0	236 545 141	-1,8	389 006 877

**Source:** Turkish Statistical Institute, 2014

According to the World Economic Forum's Report 2013-2014, Turkey falls by one position to 44th out of 148 countries, following its significant improvement in 2012-2013 from 59th to

43th. Although its macroeconomic environment remains better than in many other European economies. Turkey’s vibrant business sector derived important efficiency gains from its large domestic market (ranked 16th), which is characterized by intense local competition (15th). Turkey also benefits from its reasonably developed infrastructure (49th), particularly roads and air transport, although ports and the electricity supply require additional upgrading (The Global Competitiveness Report 2013-2014).

### 3. Research Methodology and Group Composition

In this study focus group research is used as a methodology in order to survey the development of e-logistics in Turkey. Morgan defines focus groups as “a research technique that collects data through group interaction on a topic determined by the researcher” (1997). A focus group is qualitative research because it asks participants for open-ended responses conveying thoughts or feelings (Krueger, 2002). Focus group interview is an interview with a small group of people on a specific topic. Groups are typically six to eight people who participate in the interview for one-half to two hours (Patton, 1987). The focus group interview is indeed an interview. It is not a discussion. The participants are typically a relatively homogeneous group of people who are asked to reflect on questions asked by the interviewer (Perecman and Curran, 2013). Participants get to hear each other’s responses and to make additional responses beyond their own initial responses as they hear what other people have to say. It is not necessary for the group to reach any kind of consensus. Nor is it necessary for people to disagree. The object is to get high quality data in a social context where people can consider their own views in the context of the views of others (Patton, 1987).

**Table 5. Characteristics of Focus Group Interviews**

Participants	Environment	Moderator	Analysis and Reporting
Carefully recruited	Comfortable	Skillful in group discussions	Systematic analysis
5 to 10 people per group, 6-8 preferred	Circle seating	Uses pre-determined questions	Verifiable procedures
Similar types of people	Tape recorded	Establishes permissive environment	Appropriate reporting

**Source:** Krueger, 2002

Table 1 summarizes the main features of focus group interviews. According to this, group members, who are selected for interview; environment, where the interview is made;

moderator, who conducts the interview and the analysis/reporting of interview are important determinants of focus group study.

In this study 10 experts from various segments were selected for focus group interview. The profiles of group participants are given in Table 2.

**Table 6. Profile of Focus Group Participants**

Sector	Number	Position	Work Experience	Age	Education
E-logistics	3	Managers	10-20	35-45	High
IT	2	Managers	10-20	35-45	High
Trade	2	Managers	10-20	35-45	High
E-commerce	2	Managers	10-20	35-45	High
Public	1	Manager	10-20	35-45	High

**Source:** Author

Since the main focus of the paper is the developments on e-logistics in Turkey and e-logistics sector includes many actors in its composition together with the e-commerce system, 10 experts from various segments of both e-logistics and e-commerce sectors were selected. All of these experts are in management level and have 10-20 years of work experience.

#### **4. Implementation the Focus Group Discussion**

The interview place was chosen so that it would be suitable for easy access of the each participant. 10 days before the interview date every participant was contacted and informed about study details. The study date and hour was decided. Two assistant moderators joined the meeting at the specified date in order to assist the moderator in operational cases of study. First stage of focus group research aimed the collection of information about the profiles of participants such as sector, position, work experience, age. Second stage aimed the discussion of questions prepared by the moderator and the record of answers. After the completion of these two stages additional time of 20 minutes was allowed for a free discussion among the participants and this discussion was recorded also. A focus group study lasted 2 hours and 30 minutes in total.

#### **5. Findings**

##### **5.1. The Concept of E-logistics**

Participants from logistics sector in the focus group discussion pointed that nearly all literature reviews on e-logistics emphasize the increasing importance of e-logistics within the context of e-commerce. However, e-logistics does not include the facilities related to e-commerce only. On the contrary, having a short history, but growing rapidly, e-commerce is one of the business sectors that widely use e-logistics functions. Traditional logistics include a number of e-logistics implementations such as organizational management system, driver information system, fleet



management system, customs operations system, customer relations management system, warehouse management system. Barcode system, POS (Point of Sale), RFID (Radio-Frequency Identification), EDI (Electronic Data Interchange), GPS (Global Positioning System) systems also provide great utilities for logistics companies that are using by them for many years. For example: A vehicle fleet management information system is a system for identification of location and direction of movement of each vehicle in the fleet in real-time and automatic communication directly with management offices to report its location and heading, and status of predetermined events in which the vehicle may be engaged. Or a warehouse management system is a programme, which is applied under a network environment to integrate warehouses of suppliers and retailers in the network environment and provide an information communication channel between the suppliers and retailers. All these IT systems include various information and activities in electronic environment. Therefore, the concept of “e-logistics” should not be restricted only with e-commerce sector.

Secondly, all participants agreed that the application of Internet technology has propelled the logistics concept to a new dimension not only in Turkey, also in countries all over the world. Firms selling to businesses and consumers online faced the simple truth that they cannot send a product over the Internet. In contradistinction to e-commerce sector, an e-logistics sector provides tangible actions. All stages of e-commerce realize virtually, such as presentation of products, their features, dimensions and etc., as well as their sales, payments. There is no any face to face contact between the sides. But during the logistics activities related to e-commerce there is a face to face contact between e-commerce company and logistics firm, between logistics firm and customers. Therefore, the difference in concepts of “e-logistics” and “logistics” is not so great for logistics companies in this sense like for e-commerce and traditional commerce firms.

## **5.2. Emergence of Cargo Logistics in Turkey**

The second question in the focus group study was about emergence of the cargo logistics sector in Turkey. The participants pointed that launching e-business enterprises has forced conventional transport firms to become e-logistics companies. Small order size, increased daily order volumes, small parcel shipments and same-day shipments become reality and are common. Getting goods delivered to a customer’s doorstep in a timely manner is a much more complicated task. Now, the success of firms in the e-commerce markets depends on the efficiency of their distribution networks. The effective and efficient movement of goods is critical in the e-commerce logistics supply chain. Therefore, together with the e-commerce, the cargo logistics sector developed rapidly in Turkey. An increase in the dispatch numbers caused to the growth of cargo companies. In this sense, an e-commerce is an opportunity for delivery and postal operators. Turkish cargo sector kept up with e-commerce developments and now it is able to make a delivery to the distance of 600 km within 24 hours and to any point of Turkey within 48 hours. Cargo companies opened too many new offices, warehouses in several locations, employ the human resources, and update the IT networks in order to meet the demands. Also mobile opportunities provide a service for rural locations on particular days of the week. All these developments, such as short delivery terms, efficiency growth feed the e-commerce and promote the consumers to make online shoppings.

### **5.3. Urban Issues**

All participants agreed on that a big part of e-commerce consumers in Turkey is located in large cities, such as Istanbul, Izmir, Ankara and etc.. On the other hand, the departure point of most e-commerce products and their consumption place is also Istanbul. The large cities like Istanbul in Turkey have great traffic problems already. Usually the consumers order online 2-3 pieces of same product in different colors and sizes, but choose the best one at the door. The remaining products are returned by cargo company's employees. Considering that the consumers are willing to pick up deliveries in the morning or evening, when they are at home, it is not difficult to imagine the additional problems because of these mobilities at the most crowded periods of traffic.

The participants defined the CO2 issue as a second problem. A traffic jam of e-logistics companies increase the CO2 emission rates. According to the participants, a growing number of e-logistics branches in every street and district is another distressed subject. This means that any new opened cargo office automatically increases the vehicle number of that company. It brings together the first two problems: air pollution and traffic jam, but additionally, noise pollution.

### **5.4. The Content of Turkey – EU Relations**

According to participants, a dimension and context of Turkey-EU relations is one of the important factors that promote the e-logistics developments in Turkey. It is clear that an e-commerce between different countries requires an infrastructure in both sides such as Internet access, e-commerce web sites, logistics services, payment systems, legal regulations. Therefore, a geographic proximity, historical trade relations with European states, Turkey's economic structure, bank transfer systems, its candidacy for the EU membership and legal harmonisations within this context makes an e-commerce and e-logistics activities easy between Turkey and the EU countries. Including the most developed countries of the world within itself, the EU's e-logistics implementations are the best practices and examples for Turkish e-logistics companies. Additionally, short ve direct delivery opportunities are very desirable for both Turkish and European customers to make an online shopping from Turkey or from the EU countries. This factor enforces Turkish companies to develop and improve their e-logistic services.

Besides, the participants stressed the importance of Turkey's position for the EU. Because of its candidacy and geographic location, Turkey is a hub of the many big European suppliers for their access to the Central Asia, Caucasus, Middle East, sometimes to the Far East. This is also a reason for development of e-logistics in Turkey. Both local and foreign companies compete for market share and improve their services and facilities. At the same time, harmonization of the EU acquis by Turkish government is an advantage for the European countries to do a business in Turkey.

### **Conclusion and Further Research**

The relevant literature on e-logistics supports the views that there are great differences between old and new logistics approaches. So that the new logistics focuses on customer and accepts the suppliers as the partners. All operations made by traditional channels are doing over the web now. The changes in distribution systems and channels are especially significant for the modern e-logistics sector. In traditional logistics an increased customer satisfaction was

seen as a tool for increasing costs, however, for new logistics a customer service is a tool, which creates a competitive advantage. The customers' expectations from the logistics companies are towards the forward of the information also during the transmission of products or services to themselves. Today Internet provides unlimited access both for individuals and organizations. Parallely to this, e-commerce and e-logistics are growing rapidly. An e-logistics has a key role in e-commerce processes. Because e-logistics is only moment that the e-commerce customers meet face to face. Besides the e-logistics companies have a representation task of e-commerce firms for customers. The e-commerce sector can not survive without the e-logistics activities. On the other hand, the logistics companies should keep up with this new trend and update and adopt their services.

E-logistics is a new sector for Turkey but growing rapidly. An increasing number of Internet users, an expansion of e-commerce day by day, scientific and technological developments, and promotion of innovations by the government, Turkey-EU relations, and integration to global economy are the main reasons that accelerate the progress of e-logistics in Turkey. Especially Turkey's political and economic trend toward the EU fosters the e-logistics developments.

The focus group research employed in this study explored that there are different views on the concept of "e-logistics". Although in e-commerce literature it is defined as "e-logistics", because the logistics activities are tangible actions and there is a face to face contact with the customers, the logistics sector does not put emphasis on "e" so much. Secondly, e-logistics sector is in a developing stage in Turkey parallely to the developments in Turkish economy and society. An expansion of e-commerce caused to the emergence of the cargo logistics sector in Turkey. While the growth of cargo logistics sector brings together the better customer service implementations, like time, place, price utilities mainly, it causes the several serious urban problems, such as traffic jam, air and noise pollutions. The negotiations with the EU for full membership have a great role in emergence of e-logistics sector in Turkey. The consumers and businesses of two sides knows the each other's shopping habits, markets very well because of historical trade relations between Turkey and the European countries and the candidacy process eased the formation of legal dimensions of both e-commerce and e-logistics in Turkey. The candidacy process also helped to Turkey to internalize the best e-logistics practices of the most developed countries of the world, who are the members of the EU. Besides national e-logistics companies increase their innovation investments in order to be able to compete with European giants of the sector.

Focus group studies in scientific research purpose to create hypotheses than can be further measured quantitatively and to generate information for structuring questionnaires in order to suggest new ideas for creative concepts. In the light of these, the further studies may investigate the urban issues caused by e-logistics, impacts of growth on performance of cargo logistics, also impacts of Turkish governments' policies on e-commerce sector and thereby on e-logistics. The theoretical studies may be developed on the perception of "e-logistics" concept from the different points of the view. The solutions for urban problems caused by e-logistics may be researched.

Since the e-logistics is a new and growing sector, including numerous systems such as transportation, IT, warehouse, handling, location, payment conditions, the further studies may investigate the each of systems and this research's main structure may be a basis for them.

## REFERENCES

Angheluta, A. & Costea, C. (2010). Utilization of E-logistics In Multinational Companies To Overcome Difficulties of Today's Economic Environment, *Management&Marketing*, Volume 5, Issue 1

Asia-Pacific Economic Cooperation (2005). E-logistics In APEC, Information Submitted by Korea, available at:

[http://aimp.apec.org/.../PPP/05\\_ecsg\\_ppp1\\_005.doc](http://aimp.apec.org/.../PPP/05_ecsg_ppp1_005.doc)

Auramo, J., Aminoff, A., Punakivi, M. (2002). Research Agenda For E-Business Logistics Based On Professional Opinions, *International Journal of Physical Distribution & Logistics Management*, Volume 32 Issue 7, pp.513 – 531

Barcik, R. & Jakubiec, M. (2012). E-logistics – Aspects of Functioning, *Acta Academica Karviniensia No 1*

Bayles, D. L. (2002). E-logistics & E-fulfillment: Beyond The “Buy” Button, UNCTAD Workshop, CURAÇAO

Caglar, B. (2011). E-Logistics With All Aspects, Online Essay, available at: <http://www.utikad.org.tr/haberler/default.asp?id=8788>

Castells, M. (2010). *The Rise Of The Network Society*, United Kingdom, Wiley-Blackwell A John Wiley & Sons Ltd, Publication, Second Edition

Cho, J. J. & Ozment, J. (2005). The Importance of Logistics Capability In The E-commerce Market, *Journal of Transportation Management*, Spring Issue

Denktas Sakar, G. & Deveci, D.A. (2012). Intermodal Transport-Orientation of Ports: A Focus Group Study, Key Developments In The Port and Maritime Sector Conference Paper, Antwerp

Ecommerce Europe, European B2C Ecommerce Report 2012, available at: <https://www.ecommerce-europe.eu/facts-figures/western-report/download-the-free-western-light-version-report>

Ecommerce Europe, Position Paper Cross Border E-Logistics A Need For Integrated European E-logistics Solutions, 09.10.2013, available at: <http://www.ecommerce-europe.eu/publications/2013/position-paper-cross-border-e-logistics>

European Commission, E-commerce Action Plan 2012-2015 State of Paly 2013, Brussels, 23.4.2013, available at: [http://ec.europa.eu/internal\\_market/e-commerce/docs/communications/130423\\_report-ecommerce-action-plan\\_en.pdf](http://ec.europa.eu/internal_market/e-commerce/docs/communications/130423_report-ecommerce-action-plan_en.pdf)

European Commission, E-Freight Roadmap 05/2013, available at: [http://ec.europa.eu/smart-regulation/impact/planned\\_ia/docs/2013\\_move\\_001\\_e\\_freight.pdf](http://ec.europa.eu/smart-regulation/impact/planned_ia/docs/2013_move_001_e_freight.pdf)

European Commission, Green Paper An Integrated Parcel Delivery Market For The Growth of E-commerce In The EU, Brussels, 29.11.2012, available at: [http://ec.europa.eu/internal\\_market/consultations/docs/2012/parcel-delivery/121129\\_green-paper-parcel-delivery\\_en.pdf](http://ec.europa.eu/internal_market/consultations/docs/2012/parcel-delivery/121129_green-paper-parcel-delivery_en.pdf)

European Commission, Single Market Act II Together For New Growth, Brussels 03.10.2012, available at: [http://ec.europa.eu/internal\\_market/smact/docs/single-market-act2\\_en.pdf](http://ec.europa.eu/internal_market/smact/docs/single-market-act2_en.pdf)

Ghezzi, A., Mangiaracina, R., Perego, A. (2012). Shaping The E-Commerce Logistics Strategy: A Decision Framework, *International Journal of Engineering Business Management*, Volume 4, Special Issue Digital and Mobile Economy, 13

Gunasekaran, A. & Ngai, E.W.T. (2003). The Successful Management of A Small Logistics Company, *International Journal of Physical Distribution & Logistics Management*, Volume 33, Number. 9/10, pp. 825-837

Gunasekaran, A., Ngai, E. W. T., Cheng, T. C. E. (2007). Developing An E-logistics System: A Case Study, *International Journal of Logistics: Research & Applications*, Volume 10, Number 4, pp. 333 – 349

Hardcastle, E. (2008). *Business Information Systems*, Denmark, Ventus Publishing ApS

Hultkrantz, O. & Lumsden, K. (2001). E-commerce And Consequences For The Logistics Industry, Conference Paper, European Conference of Ministers of Transport

***Interbank Card Center, [www.bkm.com.tr](http://www.bkm.com.tr)***

Islam, D. M. Z. & Zunder, T. H. (2013). Issues of eLogistics Applications For Varying Stakeholders: Findings From An Online Survey, *European Transport Research Review* 5, pp.65–78

Kikovska-Georgievska, S. (2013). E-Commerce – Challenge For Sustainable Development of Companies, *Journal of Sustainable Development*, Volume 4, Issue 7, pp.71-83

Krueger, R. A. (20002). Designing and Conducting Focus Group Interviews, University of Minnesota, available at: <http://www.eiu.edu/~iheec/Krueger-FocusGroupInterviews.pdf>

Ministry of Economy of Republic of Turkey, [www.ekonomi.gov.tr](http://www.ekonomi.gov.tr)

Ministry For EU Affairs of Republic of Turkey, [www.abgs.gov.tr](http://www.abgs.gov.tr)

Ministry of Foreign Affairs Of Republic of Turkey, [www.mfa.gov.tr](http://www.mfa.gov.tr)

Morgan, D. L. (1997). *Focus Groups as Qualitative Research*, U.S.A., Thousand Oaks, CA: Sage  
Muftuoglu, O. (2011). Interview, *Hürriyet Daily News*

Muniraju G. (2013). Dynamics of Logistics Management With Special Reference To Organized Retailing, *International Journal of Scientific and Research Publications*, Volume 3, Issue 2

Napier, G., Schwaag, S.S., Wise, H. E. (2004). Strengthening Innovation And Technology Policies For SME Development In Turkey - Opportunities For Private Sector Investment, International Organization For Knowledge Economy And Enterprise Development Report, available at:  
<http://www.iked.org/pdf/Strengthening%20Innovation%20and%20Technology%20Policies%20for%20SME%20Development%20in%20Turkey.pdf>

Patton, M. Q. (1987). *How To Use Qualitative Methods in Evaluation*, U.S.A., Newbury Park, CA: Sage

Perecman, E. & Curran, R.S. (2013). Field Research: Essays & Bibliographic Sources on Research Design and Methods Focus Groups: Focus Group Interviews, U.S.A., SAGE Research Methods

Report of Ministry of Development of Republic of Turkey (2013). [www.kalkinma.gov.tr](http://www.kalkinma.gov.tr)

Ross, D. F. (2002). *Introduction To e-Supply Chain Management: Engaging Technology To Build Market-Winning Business Partnerships*, U.S.A. St. Luice Press

Saatcioglu, O., Deveci, D. A., Cerit, A. G. (2009). Logistics And Transportation Information Systems In Turkey: E-Government Perspectives, *Transforming Government: People, Process and Policy*, Volume 3, Issue 2, pp.144 – 162

Sarkis, J., Meade, L. M., Talluri, S. (2004). E-logistics And The Natural Environment, *Supply Chain Management: An International Journal*, Volume 9 Issue 4, pp.303 – 312

Singh, V. H. (2000). Workshop On E-commerce, Development and SMEs, Opening Remarks, World Trade Organization, 2000, available at:  
[http://www.wto.org/english/tratop\\_e/devel\\_e/wkshop\\_apr13\\_e/singh\\_e.pdf](http://www.wto.org/english/tratop_e/devel_e/wkshop_apr13_e/singh_e.pdf)

Stratton, F. (2001). Recognizing 3PL Excellence, *Inbound Logistics*, Volume 21, Number 7, pp. 43-46

Taser, A. (2013). E-commerce and E-logistics, In *Modern Logistics Implementations*, Publication No 2752 of Anadolu University, (pp. 128-148), Turkey



TUBITAK – The Scientific And Technological Research Council of Turkey, National Science, Technology And Innovation Strategy 2011-2016 Report (2011). Available at: <http://www.tubitak.gov.tr/en/about-us/policies/content-national-sti-strategy-2011-2016>

Tuna, O. (2013). Opening Speech, Logistics In E-Commerce Conference, Beykoz Logistics Vocational School, Istanbul

Wang, Cheng; Chen, Y. (2006). Utilizing e-Logistics Case Studies In Sweden And China, Master Thesis, Lulea University of Technology

Wang, J., Yang, D., Guo, Q., Huo, Y. (2004). Taking Advantage of E-logistics To Strengthen The Competitive Advantage of Enterprises In China, The Fourth International Conference on Electronic Business (ICEB2004) Proceeding Book, (pp.185-189), Beijing, China

World Bank Report No.85830-TR (2014). Evaluation of The EU-Turkey Customs Union, available at: <http://www.worldbank.org/content/dam/Worldbank/document/eca/turkey/tr-eu-customs-union-eng.pdf>

World Economic Forum Report 2011-2012, available at: <http://reports.weforum.org/global-competitiveness-2011-2012/#=>

World Economic Forum Report 2013-2014, available at: <http://reports.weforum.org/the-global-competitiveness-report-2013-2014/#=>

Yong, H. C. (2001). **Fleet Management System**, Master Thesis, Universiti Utara Malaysia