
Logistics Industry analysis of Spain & Comparison with Finland

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**Master degree in Management Organization and
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Abstract

Despite the recession suffered in the last few years, the transportation and logistics sector represents the 5.5% of the GDP in Spain, and it's expected to keep growing in the following years. However, the scenario is significantly different than in other countries, so the future projections and their results are still uncertain.

The raise of E-commerce is bringing up new marketing strategies and makes the products travel faster, and further. The new living styles can often bring to us products that a few years ago were just too far, and therefore away from our reach. With all these and more, logistics have a bright future, having all kind of transportation methods to use and optimize. However, there is still room for new methods and innovation in this sector.

Surprisingly, the literature available about logistics is not as abundant as it is for other sectors, like the airline industry or fashion industry.

I have done a Bachelor degree in Finland of Business Administration specialized in logistics, and during the Bachelor studies I did a job training in one of the biggest Import/Export corporations in Beijing, China. I found it very interesting with great opportunities and future.

For all these reasons, performing a deeper analysis of this sector using Porter's Five Forces analysis for the microeconomic situation mainly targeting the road transportation and PESTEL analysis for positioning the macroeconomic situation of this industry with special attention in the multiple challenges of the competition in a global market, which can bring some interesting conclusions to this research. Also a brief comparison to Finland, one of the leading logistics countries in Europe might bring some different aspects.

Keywords: logistics, Spain, Porter's Five Forces, PESTEL analysis, road, Finland

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Logistics Industry analysis of Spain & Comparison with Finland

Introduction

One popular definition says that Business Logistics is "having the right item in the right quantity in the right time and at the right place for the right price in the right condition to the right customer"¹. The definition itself reflects the complexity of this concept, but the great importance of it for the industry. In a globalized scenario, where raw materials can come from any place in the world and the finished product can be sold to anyone and anywhere, it's crucial to do coordinate the different steps efficiently and sufficiently to offer a competitive price to the end user.

In business it's common to differentiate inbound and outbound logistics, which covers from purchasing raw materials, transporting, storing, managing the inventory, warehousing, consultation and the efficient planning and coordination between every step. To be more exact, logistics are usually divided into:

- **Procurement logistics**: including market research, requirements planning, ordering, etc
- **Production logistics**: related to organizational concepts, layout planning, production planning, and control
- **Distribution logistics**: consists of order processing, warehousing, and transportation, probably the most commonly known part of logistics
- **After-sales logistics**
- **Disposal logistics**: the main function is to enhance the services related to the disposal of waste produced
- **Reverse logistics**: includes the management and the sale of surpluses, as well as products being returned to vendors from buyers
- **Green logistics**: describes all attempts to measure and minimize the ecological impact of logistics activities

¹ The Handbook of Technology Management: Supply Chain Management, Marketing and Advertising, and Global Management, vol 2 (Hossein Bidgoil, 1 ed.).

- **Global and domestic logistics**, depending on the scope and extension involved
- **RAM logistics**: combining business logistics and military logistics, and stands for Reliability, Availability and Maintainability

It's easy to see that low efficiency in any of these steps will have an impact in the final product cost and time to market, and it can make a difference between success or failure.

In the last decades we can find multiple examples of failure due to logistic inefficiencies, that can illustrate to what point this is true. For instance, Apple Computer suffered losses (instead of the expected positive results) in the last quarter of 2004 due to impossibility to provide enough iPods to cover the Christmas campaign demand. Back to 2001, Cisco Systems' shares lost nearly 60% of their value in one year; part of the reason was \$2.2 billion excess inventory, and the corrective measures affected dramatically the entire company structure and performance ever since².

The importance of efficient logistics it's not limited to the business field. It has a crucial weight for the military forces or in the case of natural disasters, bringing supplies to the front line and medical aid for civilians. As a recent example, when hurricane Katrina flooded New Orleans in 2005, 1.9 million meals and 6.7 million liters of water were delivered during the first weekend, with most of the land transportation structures affected³. This is simply impossible in a country where logistic infrastructures are not properly designed and maintained.

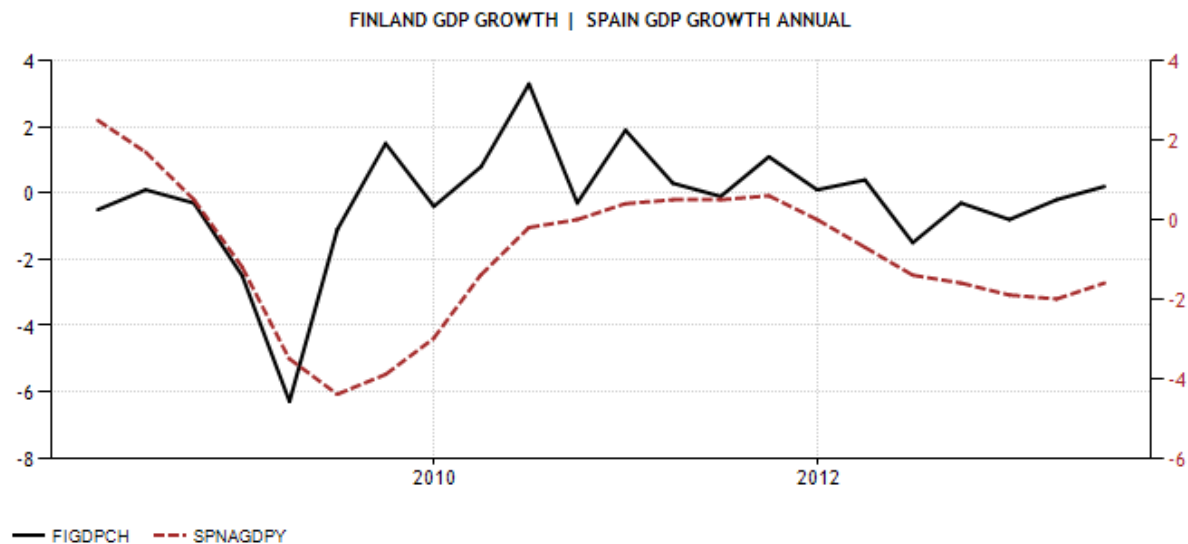
But unlike some industrial sectors, business logistics are not so clearly delimited and they are exposed to multiple threats; some of the factors involved are global, but others are particular on each country. The grade of competition and the risk evaluation will define to which point this field is attractive or not.

In this document I will identify these threats and compare the local characteristics of Spanish logistics with Finland, in order to benchmark the performance and competition. These two countries represent two very different economical and social models, but experimenting a similar GDP evolution during the last years. (Chart below⁴)

² Forbes

³ source: University of San Francisco

⁴ source: tradingeconomics.com



Background of Spain

From the infrastructure point of view, Spain has more than 166.000Km of roads, almost 15.000km of railway, 28 port entities and amount all 48 airports there are 38 of them with freight services, with an excellent logistic connection that makes this country a strategical entry point for goods into Europe, chosen by many international companies such as Hutchison Port Holdings, who has established the Europe South Terminal in Barcelona. Compared to other countries, the density of transportation networks is very high approximately 310Km of motorway per million of inhabitants⁵, which stimulated the competition to unprecedented levels.

In 2012, more than 24.000 active companies conform this sector in Spain, (4.59% of the total) and more than 850.000 jobs (4,32% of total)⁶. This is a very fragmented market mostly with small actors, micro and SMEs, and very few large logistic operators. The activities are also fragmented; while most of the SMEs are operating the road transportation and storage, the large operators are still controlling railroad and freight.

From the geographical point of view, the Spanish logistic sector is distributed in multiple areas, being Catalonia, Madrid, Comunidad Valenciana and Andalusia, in this order, the ones that concentrate the biggest activity.

⁵ source: Informe España 2012

⁶ source: Ministerio de Fomento

Market distribution of road transportation in Spain

The five leading companies in the Spanish road transportation market, with the respective volume of sales are the following ones:

	2006	2008	2010	2012
	M€	M€	M€	M€
DHL Express Iberia, S.L	688	610	514	693
SEUR, S.A	620	625	569	535
MRW	564	607	563	565
GRUPO AZKAR	356	378	377	N/D
GRUPO INTEGRA2	268	296	276	N/D

The volume of sales of Grupo Azkar and Grupo Integra2 for the year 2012 are not available, since they didn't exist as such, because they were purchased by other corporations. The first group was bought by the German firm Dachser, and the second one by Logista.

DHL Express Iberia stays as the leading company of road transportation in Spain, and including the other companies of the group DHL (44% of it's activity is air freight and 56% road and railway), it reaches the 45% of the goods transportation market in Spain.

Literature review

According to Exploring Corporate Strategy, (Gerry Johnson et al. 8th edition), the PESTEL framework provides a comprehensive list of influences on the possible success or failure of particular strategies.

Although multiple papers have been published about the logistics sector in United States and other countries, the information available about the Spanish sector is scarce and limited to quantitative methods. The annual figures are not published yearly, and they are sometimes fragmented, giving added difficulties to provide an accurate comparison between the Spanish and the Finnish market.

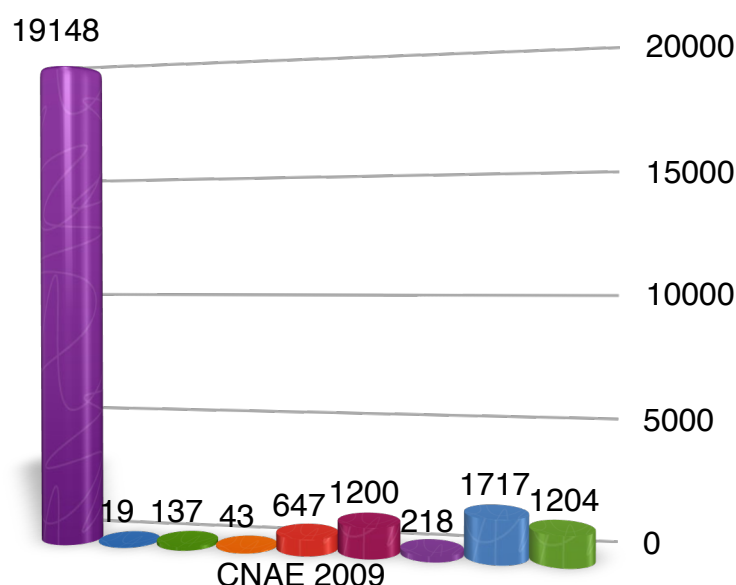
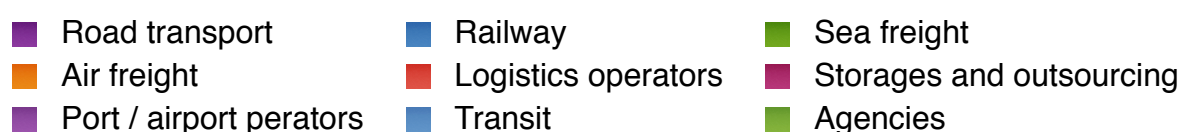
The report published by CENIT in 2011, named *Observatorio de la Logística en España*, provides a comprehensive description of this sector, including the geographical distribution, and multiple numeric analysis of specialities, dimensions and characteristics of the companies. It provided a lot of useful information for this work, but the entire report is essentially a picture of the state of the logistic sector in Spain, and it doesn't try to make predictions nor describe the microeconomic situation.

Another report made by Fundacion Encuentro, named Informe España 2012 analyze several factors related to the competitiveness of the sector, directly or indirectly revealing the threats that the companies and the sector itself can be exposed to. For instance, it points out that the speed is no longer the objective to follow as it used to be in the last years; other priorities like specialization or efficiency in all the perspectives (environment impact, cost and social responsibility) are taking advantage now.

Porter's Five force Analysis of road transportation

Threat of new entrants

The threat of new entrants is high, since nearly 95% of goods transportation in Spain is done by road, and the average of licenses granted is 3,71 vehicles per company⁷, so it pictures a very fragmented market with very specialized or local actors. The entry barriers for newcomers are low, and the required investment to start a road transportation company is moderate, so new competitors can appear anytime.



However, during the 2008 - 2010 period⁸ we observed great changes in the sector with the total loss of 63.4% of railway companies, 8.1% loss of road transport companies and 4,2% loss of sea freight companies without a significant decrease of activity, resulting as the entrance of large operators that are quickly replacing the smaller ones. In the other hand, the amount of companies dedicated to storage has increased a 30.1%, probably caused by the reduction of land price in industrial areas, as a consequence of the crisis.

⁷ source: Observatorio del mercado de transporte de mercancías, Ministerio de Fomento

⁸ source: INE - DIRCE

In this context, we can observe a clear threat of new competitors, which can be divided in two groups:

- large operators, probably international companies expanding their coverage to the Spanish geography, usually with a strong financial background.
- small operators with a high level of specialization and know-how, like medical and pharmaceutical, perishable or JIT industrial components.

It's rather easy to enter this sector due to the lack of entrance barriers. However since enter this sector is relatively easy, so it is already crowded with companies and the competition is fierce.

Threat of substitute services

Despite the large number of logistic service suppliers, the threat of substitution of road transportation service for another method (railway, maritime, air freight, etc) is low in most of the cases, since they are clearly segmented by the type of goods and destination. The heaviest goods, with further destination, are mostly transported by boat, while the ones that need fastest deliveries are by road in short distances. Air transport, due it's high cost, is mostly reserved by small and urgent deliveries, and railway is mostly dedicated to raw materials and finished products that need to be periodically transported from one industrial area to another.

In intermodal transportation, where multiple transportation methods are considered as part of the service, there is a bigger threat of substitution since the traditional door-to-door service can be replaced by combined trips (for instance, road transportation from the customer's facilities to the nearest hub, train or airplane between this hub and the closest to the destination, and finally road transportation in the last mile).

Hence, the main threat that can be considered here is pure competition between service providers instead of a real substitution.

Bargaining power of buyers

In the context of this document, we understand as “buyers” who directly request the service, instead of the ultimate consumers. For instance, someone who purchases certain goods in Amazon, will be considered as ultimate consumer, but in this case the actual buyer will be Amazon.

In cases like the previous example, the power of bargaining is obviously high, due to the large volume of services demanded and variable offers available in the sector, plus the switching cost for the buyers are low also made them easy to change from one logistics company to another.

When we talk about such powerful buyers, we have to keep in mind the possibility of forward vertical integration, which means that the buyer finally provides himself the logistic services for the ultimate customer instead of hiring an external transportation company. This is particularly interesting for the cases similar as the example, since logistic services are always required and are strategical, and also a bad delivery service can directly affect the products and damage the image of the company, in this case, the buyer.

Bargaining power of suppliers

There are multiple suppliers involved in the road transportation sector, from the private motorway owned companies (who can decide the toll prices and therefore, affect the final cost of the service), the fuel suppliers, truck and container manufacturers, etc.

In general, the bargaining power of most of suppliers involved is high. The high switching cost of certain goods plays in favor of the suppliers, for instance to change the shortest route for a new route to be able to avoid paid roads.

In theory, the switching costs of fuel suppliers, which represents a considerable cost for the companies in this sector, are very low. However, prices between suppliers don't usually differ too much, and sometimes beyond legality. This is a clear case of concentrated suppliers, where very few producers are controlling the availability of this resources.

Intensity of competition

The intensity of competition of the road transportation in Spain is high. From the last CNAE report on 2009 it shows more than 19 thousand companies with road transportation as their main activity, being most of them micro and SMEs, and in many cases, freelance workers. The lightweight structure of these companies, which main assets are usually the vehicles itself, goes along with the tendency of reducing the commercial margins in order to become more competitive.

The big picture of the logistic sector in Spain, to see the road transportation in context and understanding the need to reach the final destination, describes a geographically distributed network of transportation centers, with 24 hubs in Catalonia, 23 in the Community of Madrid, 10 in Andalusia, and 36 more in the rest of Spain, 23 maritime ports for goods (6 of them over 30MT⁹ of traffic). The flight goods transportation panorama is less distributed, since it's entirely controlled by AENA, leaving 302.863 Tons/year in Madrid, 89.815 Tons/year in Barcelona, 36.890 Tons/year in Zaragoza, 25.994 Tons/year in Gran Canaria, 18.304 Tons/year in Tenerife and 17.680 Tons/year in Mallorca¹⁰.

The amount of infrastructures and volume of goods transported reflects the importance of mobility inside the Spanish geography.

More in detail, the high fixed costs (very similar between competitors) and the low differentiation increases the level of competition, and only the large companies and the highly specialized ones have good chances to compete.

In order to evaluate these competition levels the five top companies of the road transportation sector in Spain will provide a clear example about specialization and performance in the market. The figures included in the Introduction illustrate their evolution since 2006.

DHL Express Iberia SL is the local branch of DHL, a worldwide logistic provider covering all the related services (road, railway, air and sea freight) but its main activity is focused to

⁹ 30MT = 30 million tons

¹⁰ Source: Ministerio de Fomento

the industrial sector. The local branch has experimented a reduction of business volume between 2008 and 2010, but on 2012 has recovered it over the levels of 2006.

SEUR's target group is only the Spanish market, and in particular it's offering a value added for urgent deliveries. The business model is mostly traditional, not very technology-oriented, and it's losing market share year after year. In 2010 it was the second in the rank, but by 2012 it's already the third just under MRW.

MRW is also offering a specific value added for urgent deliveries, but not specifically constrained to the Spanish market, since it's starting to open connections abroad (it's well established in Portugal and opening new branches). Unlike SEUR, its close competitor, the business volume has been stable year after year.

Grupo Azkar has disappeared as such, but now belongs to Dachser, a multi-national logistic operator. The company has been totally absorbed, becoming an extension of Dachser.

In the other hand, **Integra2** was also purchased by Grupo Logista, but it still exists and offers a differentiated service from the rest of the group. One of the main activities is specialized in the pharmaceutical products, and the company has been awarded several times for the quality and innovation of their cool chain transportation (being the first company in Spain certified under CCQI -Cool Chain Quality Indicator).

This last example illustrates to what extent the specialization is important in this field, since the original company (Integra2) kept its identity after being absorbed by a bigger group. This is because the know-how of Integra2 was considered more valuable than the brand power of the group.

PESTEL Analysis

Political

This has been a crucial factor of development in the transportation and logistics sector in Spain for different reasons. For instance, most of the roads are state-own, and so were the railroads before the privatization. Nowadays ADIF own most of the railroad and AENA controls all the airports, both companies with a monopolistic role, and a significant influence from the government. After all, the main infrastructures such load harbors or railway connections depend directly on the public investment, and this is planned and controlled by the government.

Nevertheless, the road transportation is mainly immune to most of political influence, being only sensitive mostly to tax pressure on professionals, since they are very sensitive to the change of fuel tax a slight increase in the tax would have significant effects in the logistic sector.

From the regulations point of view, the requirements to start a new transportation company are relatively affordable:

- having a minimum social capital which is approximately 10.000€ plus 5.000€ for each vehicle
- passing the skill level exam (CAP)
- “honor” certificate, proving that the professional does not have criminal or traffic records.
- receiving an authorization from the autonomic government.¹¹.

However, the European Commission consider transportation and logistics a strategical sector, crucial for the economical development of Europe, and year by year the regulations of the sector are influencing this scenario.

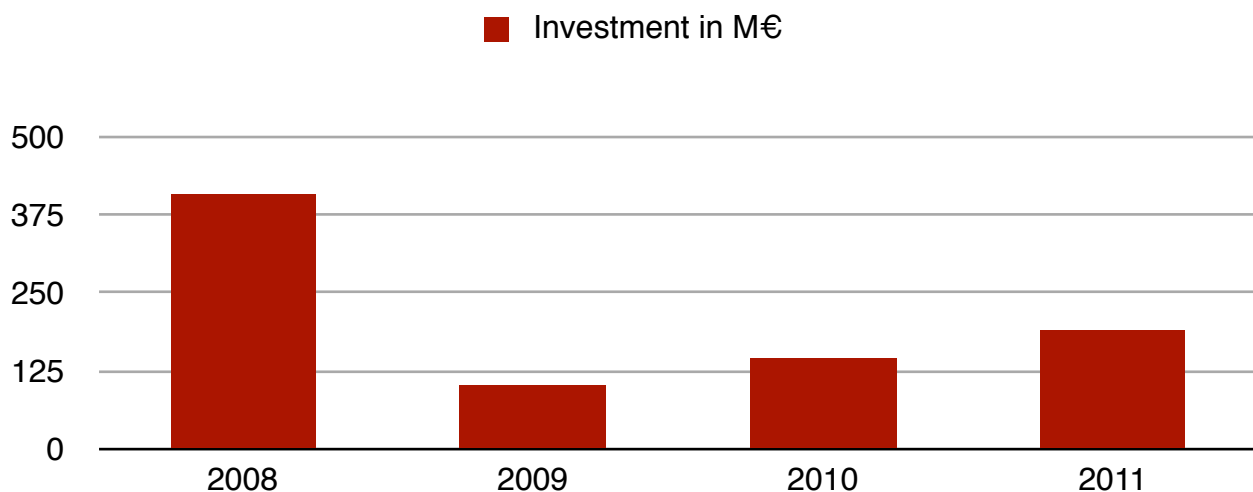
¹¹ Source: Ministerio de Fomento

Economic

The first thing to take in consideration when talking about logistics and transportation, more specifically road transportation, is the impact of the fuel prices in the overall economical activity. In this sense, the fuel price in Spain -diesel as the mainly used in the sector- has been increasing since 2009, after the fall of 2008 due to global recession, raising from 86,46€/l on January 2009 to 133,41€/l on June 2013, which is an average increase of 13.5% in price per year.¹²

In the other side of the equation, the income level of consumers has suffered a big fluctuation during the same period, in particular between 2008 and 2009, with a peak over -8%. After this period, it has stabilized around the -1%, but still in the negative side of the chart¹³.

The Spanish economical crisis has affected this sector in the creation of new projects, specially during the year 2009, but after the crack, the investment levels in the following years kept increasing:



Recently, the European Commission has approved a financing plan to upgrade the road and railway infrastructure and multiply the capacity of the connections of the entire network with Europe, which is expected to boost the performance of the industrial sector in the following years. This will also represent a benefit for all the companies that are using these channels as a method to transport their goods to their customers.

¹² Source: CETM (Confederacion Española de Transporte de Mercancías)

¹³ Source: Banco de España, See Appendix XXX

Social

The recession has affected negatively most of the industrial activities in Spain, and logistics was not an exception, but the pattern responds more to a social explanation than a purely economic one. The domestic consumer's activity has clearly decreased during this period, and with it the import volume and the local distribution. However, both export and storage activities have significantly grown as a sign of adaptation to the new situation.

In the other hand, the e-commerce is becoming popular with an increase of 4.4% between 2008 and 2010, and with it the home-delivery services, and the related logistics. Note that despite the numbers are moderate, it refers to a period of economic recession with an overall fall of consumption. This tendency is creating great demand in the whole supply chain, both for long distance (for instance Amazon technological goods) and short distance deliveries (like groceries in supermarket chains). The social sectors requesting this sort of services are mostly young people (16 to 44 years old) with high education and living in big cities¹⁴. It is expected to increase this tendency in the following years.

While this individual deliveries does not represent a significative percentage of the total volume of goods transported, it does have an important economical weight, since this type of service has a much higher cost in relation of the goods cost.

Regarding the professionals of the field, the gender distribution indicates a masculine dominancy, leaving only between 20% and 30% of women in the sector, less than 10% in management positions.¹⁵ According to the same source, the main reasons why professionals have chosen this field are the values of their employee, the improvement of their economic situation and an opportunity for starting a professional career.

¹⁴ Source: CLADEA, E-business report 2011 in Spain

¹⁵ Source: Transporte y Logística 2030

Technological

In the last decades, logistics have experimented a great technological evolution that does not seem to change in the short term. It was in 1990 when ERP systems landed massively in the industry, globalizing the renewed concept of the Supply Chain, and automated logistic hubs. With the boom of Internet around the year 2000, the possibility of integrating the different actors became a reality. Very soon after that, the main logistic operators were already offering on-line tracking of the orders, and today this is already considered a minimum requirement for every company.

Very few industrial sectors have experimented such big changes in they activity, and this is the result of an intensive R&D activity. While it's true that all this developments are global, and Spain is not one of the biggest investors in this field, implanting this new methodologies requires a technological predisposition for all the actors, so they must do the effort if they want to keep being competitive.

During the following years we will see a lot of technological innovations that will provide to the costumer more safety and control to their goods as a value added services, like sensors that can track the packages on real time, detecting any impacts that they could have suffered, or even the temperature swings that might harm the goods. ¹⁶

In order to improve the safety and efficiency of transportation of goods, some vehicles are specifically designed for each type. For instance, car, fluids, gas or perishable products have their particular container, maximizing capacity and ensuring the best conditions for the delivery. These containers are improving gradually thanks to the technology, and will bring more advantages in the future.

There has a lot of room for innovation and many companies are investing in research and development to bring this advantages to their customers as value added.

¹⁶ Source: PSFK DropTag

Environmental

This is one of the most important aspects to take in consideration when talking about logistics. First of all, because it represents the 6% of the total CO2 emissions in the planet, including transportation, packaging and warehouses. As a consequence, governments (specially in the European Union) are applying more restrictive regulations every year that in one way or another will affect the way each actor in the Supply Chain is doing its job.

This new regulations might force operators to do more reporting, to renew vehicles for more efficient ones, to do more frequent maintenance to the machinery, to train professionals for the new methodologies, etc. And this activities have a significant cost that will be deducted from the operational margin of the companies.

But not only to fulfill the new regulations companies are investing in more efficient solutions. Projecting an environmentally friendly image of the company can be a powerful aspect to increase the public image and attract new customers. In some way, being a green company is even more important in this sector than in others.

The main activities that can reduce the footprint of transportation are:

- **developing greener vehicles:** by for example using stronger particulate filters, better achieving truck motors etc.
- **slowing down the supply chain:** how faster vehicles go, the more co2 they produce. Slowing down the supply chain can reduce emissions.
- **optimize supply chain networks:** for example reduce the number of trucks that drive without load or only partially loaded
- **building energy efficient warehouses:** for example use solar panels or led lights
- **using energy friendly packaging:** recycle, use cardboard instead of plastic and don't use too much packaging
- **intermodal logistics:** combining different types of transport and choose for train or ship where possible, as those ways of transport don't emit that much greenhouse gases ¹⁷

¹⁷ Source: EU Logistics HUB

Legal

As it was mentioned in the Political analysis, becoming a professional of the logistics sector has certain legal requirements that must be fulfilled, including licenses provided by the local government.

Domestic logistics and within the EU have very little legal entry barriers, but we have to consider the cost of the administrative operations, regulations and insurances related to specific goods (dangerous products, food chain supply, etc).

These goods are mostly regulated by several laws in each country, so it is important to know them well. The ADR (European Agreement concerning the international carriage of Dangerous goods by Road) regulates how goods have to be transported within the European Union and other countries that signed the agreement.

This document was created on 1957 by the collaboration of the United Nations Economic Commission for Europe, and became operative in 1968; the last revision was done in January 2013¹⁸. This document defines the restrictions that apply in the transportation of pharmaceutical, chemical, explosive or radioactive goods, but also refers to administrative procedures related to the labeling of products and containers, the coding, size of containers and packaging, etc.

Hence, before entering a new territory or a new transportation activity, is important to know the specific regulations that might apply in each case. For instance, container sizes that are standard for one area might not be legal in another, as it happens with Russia, and the regulations applied to certain types of goods can change as well.

Apart from this regulations, there are more common constraints that need to be respected, like the maximum quantity of consecutive driving hours, which can differ between countries. For instance, in Spain, the maximum driving hours per day is 11 and after reaching this limit, it's required to rest at least 10 hours before departing again.

¹⁸ Source: UNECE, ADR version 2013.

SWOT analysis for road logistics

Strengths

- High flexibility and speed of adaptation
- High liability
- Know-how for transportation of specific products
- Complete national transport coverage
- Good industrial conditions for logistic and transportation companies

Weaknesses

- Reduction of the prices of transportation
- High competition within the sector
- High fragmentation
- Lack of decision centers for logistic and transportation activities
- Peripheral situation of Spain in Europe
- High dependency of human resources
- Low availability of financial resources
- Constraint transportation distance and time

Opportunities

- Greater importance in transport per product or service offered
- Advance in integration of the supply chain
- New entrance for electric vehicles
- Concentration and internationalization of Spanish companies
- Increase of use of inter-modality

Threats

- Entrance of new competitors
- Increase of specific regulations for each sector, like environment-related or geopolitical
- Reduction of European financing
- The dependency of fuel price
- Increase of the pressure of loaders
- Nature catastrophes

Brief comparison with Logistics industry in Finland

Background of Finnish logistics industry

Finland is one of nine countries surrounding the Baltic Sea, together with Sweden, Denmark, Germany, Poland, Lithuania, Latvia, Estonia and Russia, and except the last one, are member states of the European Union. Hence, the Baltic Sea might be called an inland sea of the EU, even more than the Mediterranean. And for the EU the Baltic Sea is also a very important transport route to Russia, and through Russia to the Far East.

Sea freight is very important in Finland's economy; more than 80% of Finnish foreign trade is based on sea transport. Sweden is the only EU member state to have a land border with Finland, but this border is in the far Lapland, the northern area of the country.

Transport within Finland are about twice the average costs of those in EU countries, and because of the weather conditions and the geography the logistics costs of Finland's foreign trade are much higher. This is why logistics efficiency is so important, to lower costs and increase margins in this competitive globalized market. This will also require flexible customs and other official procedures at different stages of the transport chain.

Likewise the Spanish situation, Finland is also facing multiple indicators unfavorable for the logistic sector, and particularly for the road transportation. Finnish economy's growth was virtually stopped by the end of 2011, mainly affected by the fall in exports, and future expectations for business creation have been decreasing since 2010. While fuel prices have been increasing, Sea freight container prices dropped considerably during this period, with a slight recovery at the end of 2012.

Road transport is the most important mode of transport within Finland. Because of Finland's production locations and structures, railways take a bigger share than in other EU countries.

In 2011, total domestic transportation was 37 billion TKm¹⁹, being 38.7TKm of road transport (64%), rail transport for 9.8 billion TKm (26%), and waterway transport for 3.9 billion TKm (10%).

¹⁹ TKm = Tonnekilometres

It's a great challenge for Finland to make sure that the national and international routes are reliable and competitive in order to assure major export and import markets. Another major challenge is to keep Finland's logistics position as Russia's neighbour. The EU is committed to promoting closer EU-Russian integration and to achieving strategic partnership. It is in Finland's best interests actively to promote that partnership.

The secret of Finland's logistics efficiency lays in the quick delivery routes, the only affordable way to compensate long distance trips, but also in the strategical position (both geographical and commercial) besides Russia, and in a second level with Asia. The European Union has been working to help this channels to consolidate.

Finland's logistics performance

Finland has been present in the top of the ranks of Competitiveness Index, compiled by the World Economic Forum (WEF). Between 2011 and 2012 shifted from the seventh position to the fourth. In the IMD's World Competitiveness Report used to be in the top positions, but later fell to 19th out of 58 countries. And also topping the lists in the World Bank's Doing Business comparison. In 2011, Finland's rank was 13, and in 2012 it was 11, among 183 countries.

In 2010, Newsweek published its Best Countries in the World comparison, in which Finland was the first in the ranking. One of the variables used in the report was 'economic dynamism' that related most centrally to logistics and ease of economic activity.

Finland was also ranked in the 18th place in the DHL Global Connectedness and Air Connectivity Index of 2011, considering variables as global connectivity and breadth, among others. In this index it's taken in consideration how many countries Finland is connected with, and how much international contact there is.

The World Economic Forum published a comprehensive comparison of the viability of foreign trade in different countries (Enabling Trade Index, ETI) in 2008 and in 2010. The ETI survey used the Logistics Performance Index (LPI) by The World Bank and the Liner

Shipping Connectivity Index (LSCI) comparison, which is produced by UNCTAD and illustrates countries' ties with container line traffic. The results of this survey will summarize these differences between road transportation sectors in Spain and Finland. Germany and France, as the biggest markets in Europe, are included in the charts as a numeric reference and control variable.

Based on a worldwide survey of operators on the ground -- such as global freight forwarders and express carriers -- the Logistics Performance Index (LPI) measures the logistics "friendliness" of 155 countries. It helps countries identify the challenges and opportunities they face in their trade logistics performance and what they can do to improve.



Figure 1: LPI

In the previous chart we can see that differences between Finland and Spain, in the global indicator, are relatively small.

Efficiency of the clearance process (i.e. speed, simplicity and predictability of formalities) by border control agencies, including Customs

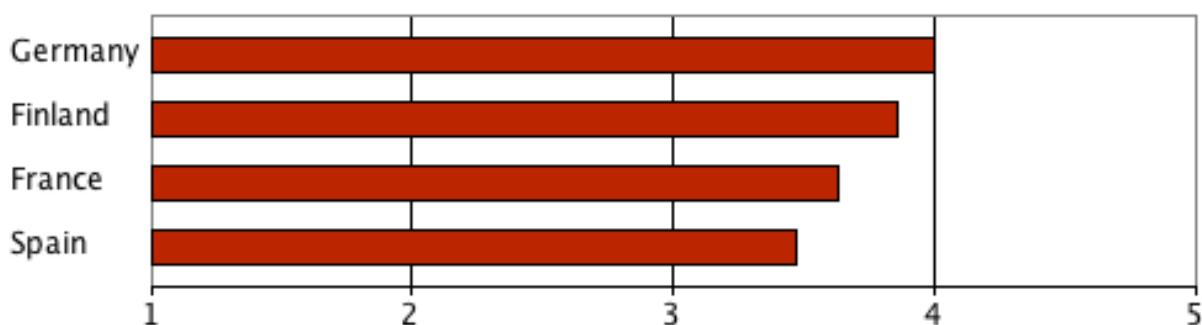


Figure 2: Customs

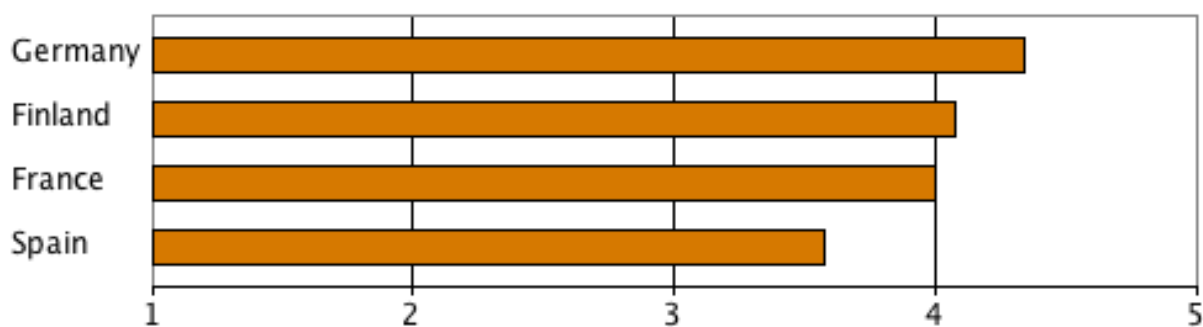


Figure 3: Quality of trade and transport related infrastructure (e.g. ports, railroads, roads, information technology)

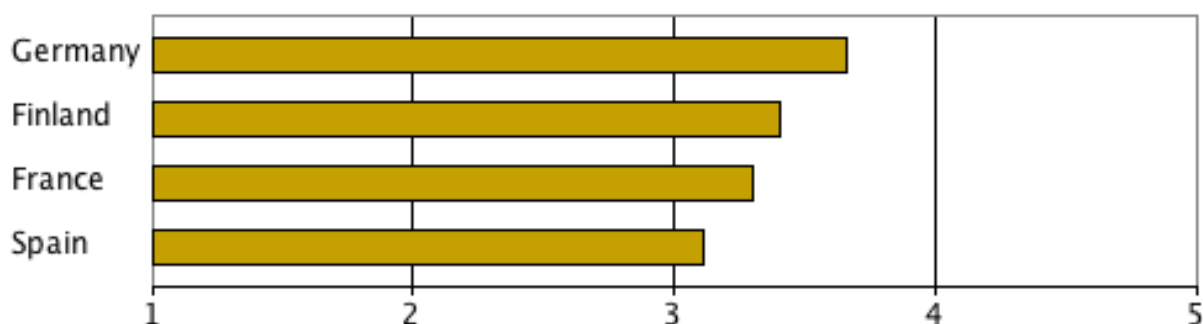


Figure 4: Ease of arranging competitively priced shipments

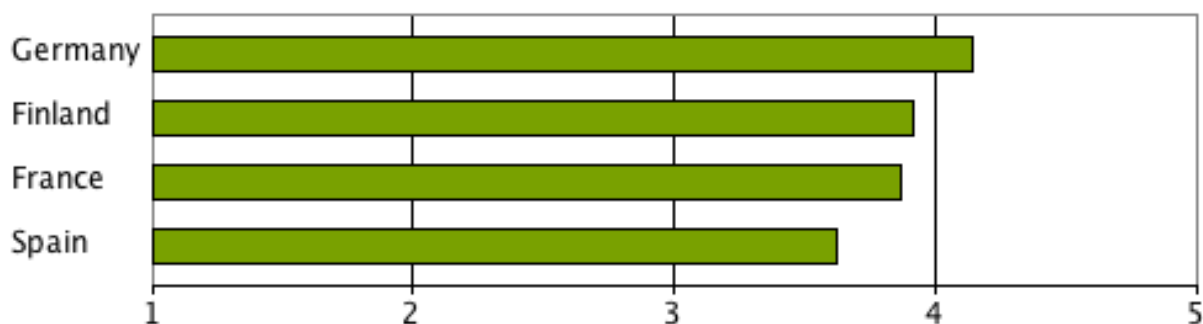


Figure 5: Competence and quality of logistics services (e.g. transport operators, customs brokers)

In the previous figures, Spain is in clear disadvantage in front of the other countries chosen for the comparison, where we can conclude that services and infrastructures (or the way these infrastructures are operated) still need to be improved in order to boost the competitiveness of Spain.

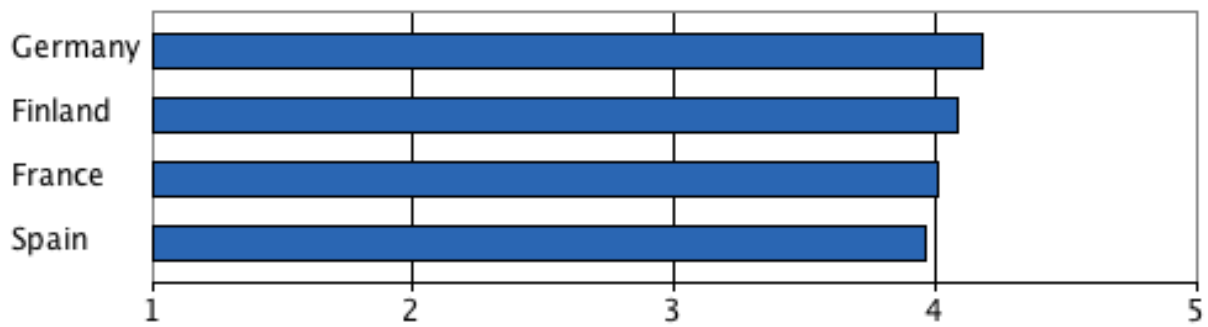


Figure 6: Ability to track and trace consignments

This is the indicator where all the selected countries obtain more similar grades, since the technologies used for tracking and tracing the logistics are nearly equivalent between countries.

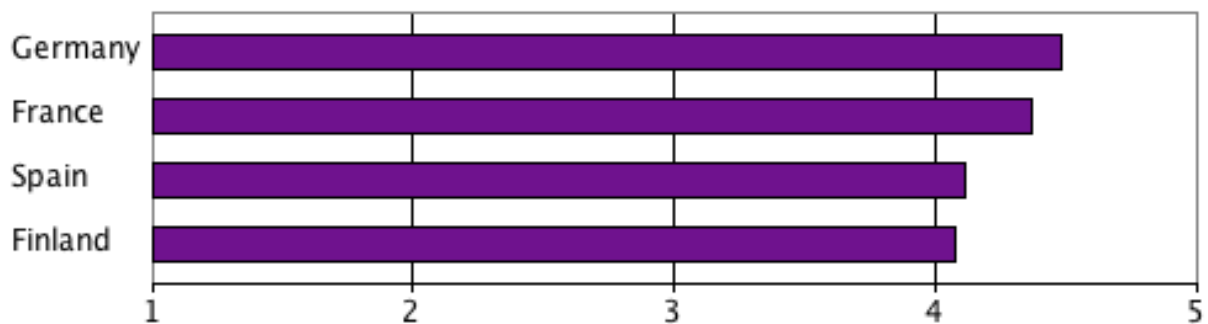


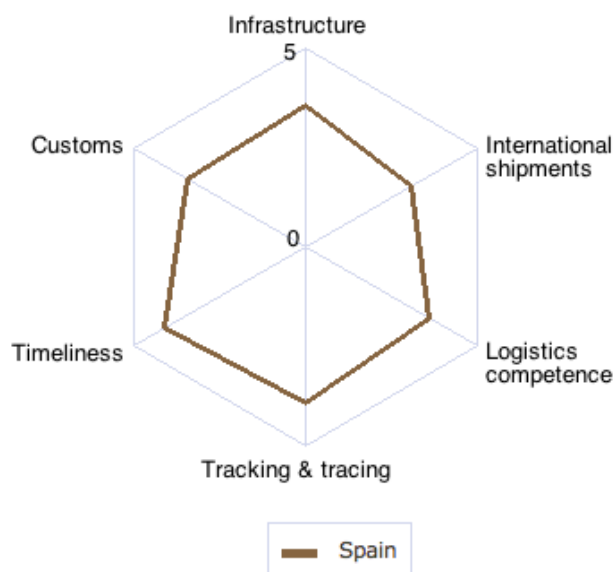
Figure 7: Timeliness of shipments in reaching destination within the scheduled or expected delivery time

This is the only indicator where Finland's grade is under the Spanish one, influenced by the broader geography and the lower density of the network. However, the distance between both countries is low, and still over 4/5.

As a summary of the previous charts, the following figures reflect in a single graph all the metrics used in the LPI calculation.



Finland			
Overall LPI	score	3.89	
	rank	12	
Customs	score	3.86	
	rank	7	
Infrastructure	score	4.08	
	rank	8	
International shipments	score	3.41	
	rank	19	
Logistics competence	score	3.92	
	rank	10	
Tracking & tracing	score	4.09	
	rank	11	
Timeliness	score	4.08	
	rank	25	



Spain			
Overall LPI	score	3.63	
	rank	25	
Customs	score	3.47	
	rank	22	
Infrastructure	score	3.58	
	rank	25	
International shipments	score	3.11	
	rank	48	
Logistics competence	score	3.62	
	rank	24	
Tracking & tracing	score	3.96	
	rank	16	
Timeliness	score	4.12	
	rank	21	

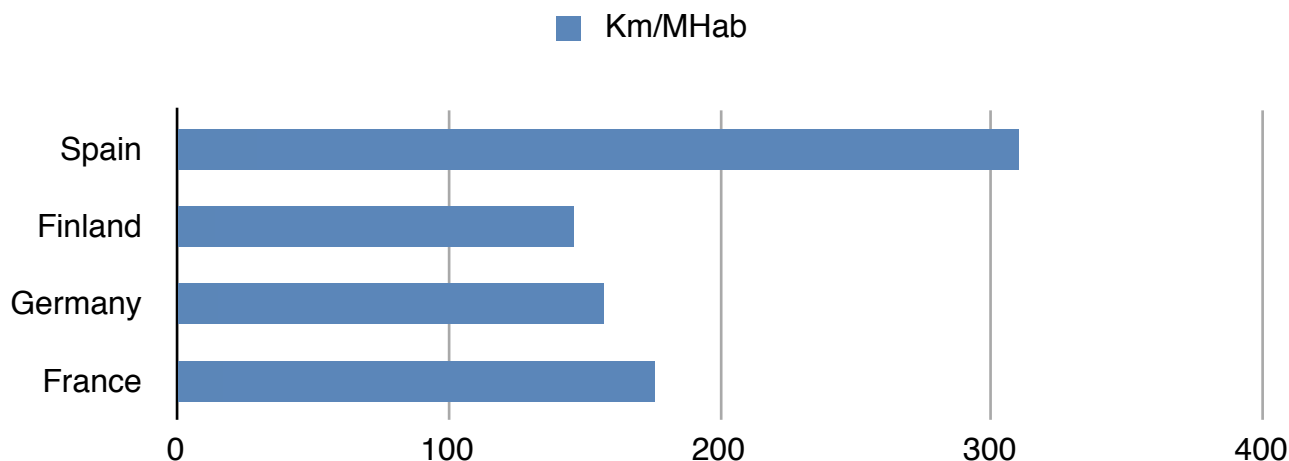
Despite the numerical differences, the graph obtained for both countries is significantly similar, with a minor divergence in the Customs and Infrastructure segment but quite close in the other parameters. This could suggest a similarity in the background of both sectors, while as we have seen, their performance and constraints differ notably.

Other conclusions of this report are:

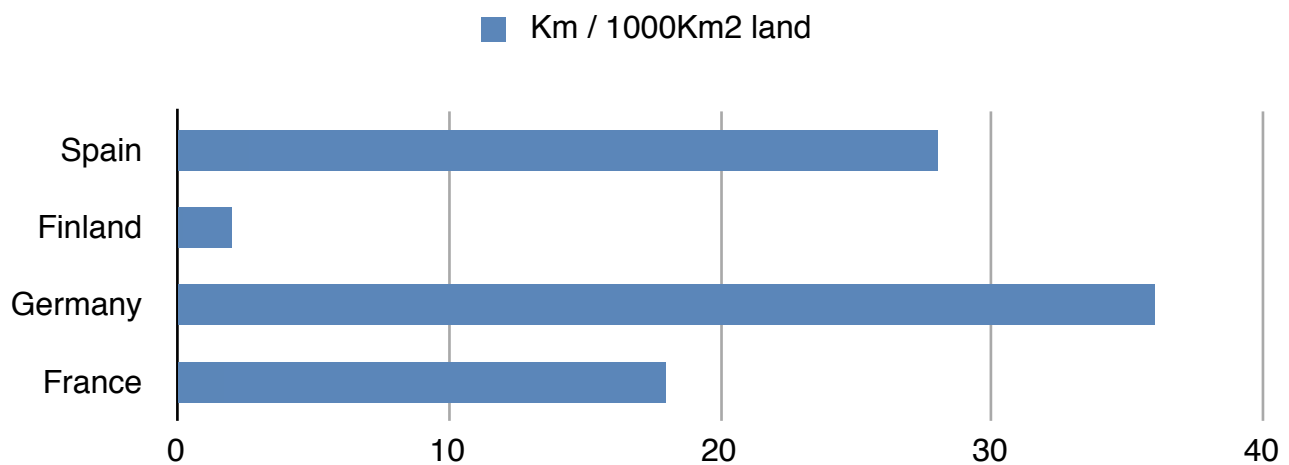
- The viability of logistics and competence in the field of logistics in Finland compared globally are excellent
- The importance of logistics for the competitiveness of business is especially true for large companies (logistics accounts for about 50% of competitiveness)
- Although low costs countries are attractive, especially for procurement and location of production facilities, there is also clear growth potential in the home country
- Companies in South Finland are the most satisfied with logistics conditions in the area in which they are located; growing difference compared with elsewhere

Comparative figures

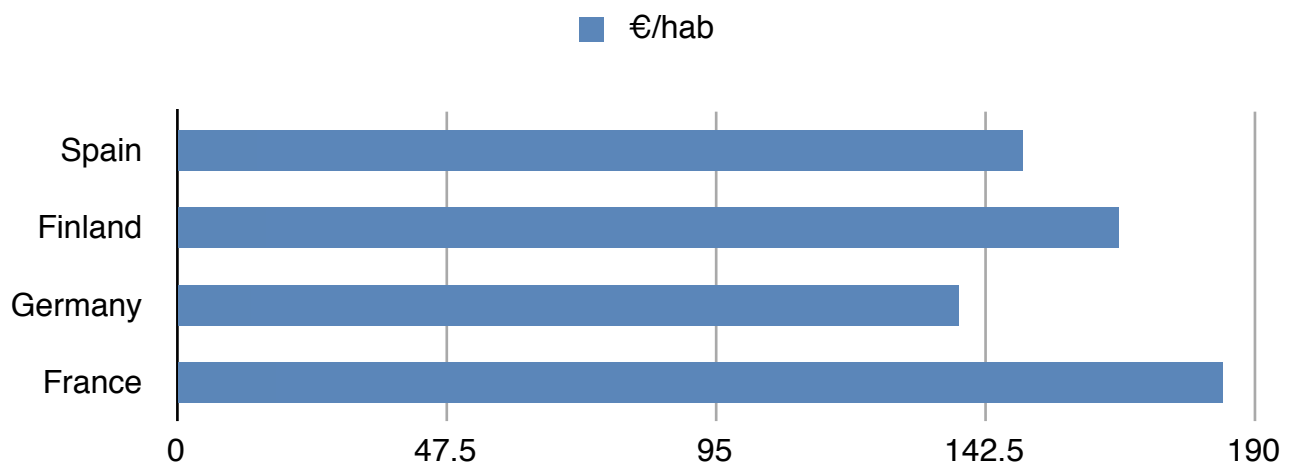
Apart from the performance indicators, it is important to keep in mind the context of this information, since the compared countries have very different backgrounds, and therefore some numbers might have to be interpreted carefully. The following lines will add some context to this report:



Spain has 310Km of motorways per million of inhabitants. As a reference, Finland has 146Km, Germany 157Km and France 176Km, which denotes an extensive (maybe even oversized) road transportation network.



From geographic point of view, Spain has 28Km of motorways per each 1000Km2 of land. Finland has only 2Km, Germany has 36Km and France 18Km. Therefore, the density of roads in the land is somewhere between France and Germany, but closer to the second one.



From economic point of view, Spain has spent 149€/hab , Finland 166,3€/hab, Germany 137,8€/hab and France 184,5€/hab to maintain the road infrastructure. The figures are quite similar here.²⁰

²⁰ Source: informe España 2012

Conclusions

As it has been shown in this research, the Logistic sector is experimenting a stable growth during the past few years, having similar levels as before the economic impasse of 2008, and it's expected to keep growing in the future due to several reasons (stock reduction for high-tech products implies less quantity but more movement, e-commerce boom, suppression of intermediates for perishable products to keep margins, etc). However, the high competition levels and the increasing fixed costs suggest that only the large players or the very specialized ones have good chances to collect short term benefits.

From the investment point of view, the big companies are a safe bet, specially in a middle and long term. Interests obtained are moderate but stable. Small specialized companies, in the other hand, can yield bigger per-share benefits but under greater risk due to share price fluctuation (since they are more exposed to fuel price variations and other fixed and variable costs). It is important, in the case of investing in these small companies, to know well the possible competitors operating in the same niche, and evaluating the differential factors before making the final decision.

Future opportunities

The new consumer habits describe a tendency towards a commercial model that depends every day more and more on road logistics, but replacing the massive transportation to a smaller, more specialized and efficient approach. Some examples are tailored products, home delivery, globalized markets, etc.

This new model requires better networking, the creation of decision centers and a technological adaptation, but when the new Spanish railway and maritime infrastructures will be ready and start to replace the current road routes, the demand of the traditional services will fall, leaving only room for the companies that could adapt to the new models.

Road transportation faces also other challenges, like the high dependency of human resources, the previously mentioned high fragmentation and the constraints of distance and time for the routes. This new model could also reduce the impact of these limitations.

Globalization

Between the years 2010 to 2011 the national road transportation has reduced 7.7% in Spain, but in the meanwhile the international transportation by road has increased 22%²¹. This is partially caused by the reduction of domestic consumption, and also a clear indicator that the tendency of the logistics growth will be towards the foreign markets.

Expand transportation activity to other countries can represent a great difficulties for the most traditional professionals, but also a great challenge and a possibility of success.

Innovation

Although the logistic sector has evolved very quickly in the last years, innovation is a key factor to maximize efficiency and sustainability. Real-time tracking of goods (combining the power of Internet and satellite positioning), improvement of monitoring (controlling the temperature, humidity and vibrations suffered by the packages during the entire trip), JIT (Just In Time) applied to home delivery are different options for offering a value added to the existent service.

But technology is not only offering the possibility to improve the consumer's experience, also to reduce costs. Replacing the current trucks for electric vehicles will cut the fuel dependency, which represent a huge variable cost which is increasing year by year. Nowadays this is not yet a real option for most of the routes (due to limited autonomy and power of electric vehicles) but it can be already used in specific cases, and will slowly be extended with the entrance of new vehicles.

²¹ source: Informe Sectorial 2013, Generalitat de Catalunya

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