

# **SUSTAINABLE TRANSPORT IN MOROCCO: WHAT CONTINGENCY FACTORS FOR WHICH MATURITY LEVEL? CASE OF ROAD HAULAGE “RH” SERVICE PROVIDERS IN THE REGION OF CASABLANCA METROPOLIS**

***Abbes Elhasbi***

PhD Student at the University of Hassan II. National High School of  
Electricity and Mechanics in Casablanca- Morocco

***Jihad Jami***

Teacher-researcher at the University of Abdelmalek Essaâdi. Faculty of  
Legal, Economic and Social Sciences (FLESS) of Tangier- Morocco  
PhD in Economical Sciences, Department of Economics and Management  
*Member of the Study Group in Economics and Territory (SGET) in FLESST*

***Said Kammas***

Teacher-researcher at High School of Technical Sciences and Management,  
Tangier - Morocco  
PhD in Sciences of Management from the University of Paul Valéry  
Montpellier III.

UFR “Economic, Mathematical and social Sciences,” - France

*All Founding members of SRECELD<sup>126</sup>*

---

## **Abstract**

Dealing with sustainable transport has allowed researchers and practitioners to suggest several solutions (decoupling, inter-modality...) capable of providing, at least, part of the answers to the negative externalities caused by road haulage.

Traffic congestion, sound nuisance, pollution, insecurity... are so many effects produced by the overuse of heavy goods vehicles.

As regards sustainable development, Morocco has demonstrated its firm commitment to include this variable, in order to ensure an economic growth less subject to climatic vagaries, cope with energy crises and reduce the social costs.

---

<sup>126</sup> Studies and Research Centre in Logistics and Development (SRECELD)

Thus, it was not until through the logistical competitiveness strategy in Morocco (program contract 2010-2015) that clear objectives and action plan related to investing and trading, as part of sustainable transport, have been set.

The objective of this publication is to evaluate sustainable development practices of the road haulage service providers and the study of the contingency factors revealing these practices.

Given that it constitutes an economic hub par excellence at the national level and a nodal point as regards trading flows, whether it be with regard to national or international transport, we have chosen the region of Greater Casablanca (Morocco) as the empirical field of study.

---

**Keywords:** Sustainable development, road haulage, contingency factors, sustainable mobility.

## Introduction

Nobody can dispute the significance of transport mode in the economic and social development. On a regional, national or international scale, road haulage sector displays an increased mobility and an undeniable growth.

This is primarily due to market growth and to the necessity to meet the needs that are more and more demanding in terms of responsiveness, adaptability and safety.

Consequently, facing the rise of ecological movements and destructive effects, if not in the medium and long run, nuisance of this mode, the tremendous benefits offered by this sector began for some time to be questioned.

*Transport represents more than 20% of the world energy consumption and 60% of the global oil consumption. Transport also remains, at the global level, one of the main sources of air pollution and is accountable for 20% of greenhouse gas emissions<sup>127</sup>.*

Morocco could not escape from this reality. Indeed, this global issue has led us to make a study at a more local scale, namely the region of Grand Casablanca (Morocco), first industrial and commercial pole at the national level.

According to the statistics of the High Commission for Planning<sup>128</sup>, the flow of goods transiting through Greater Casablanca largely exceeds the rate of 50.8%, which accounts for the high freight mobility, the lengthening

---

<sup>127</sup>Houria BENCHERIF. Towards a Sustainable Road Haulage in Algeria. National School of Application of Inland Transport Techniques NSAITT – Batna – Algeria.

<sup>128</sup>Morocco of the regions. High-Commission for Planning (2010)

of covered distances and the importance of the amount of the ton-kilometers yielded within this region.

Given this reality, and combined with the percentage of road haulage at the level of the treatment of merchandise flow (90% domestically), several aspects can be questioned, free traffic flow, road congestion, impact on the ecosystem, road safety...The observation is very alarming at all levels, according to the latest reports of the Ministry of Equipment and Logistics and the report of the World Bank on the logistical performance in Morocco; hence a swift reaction becomes a necessity, despite the positive economic and social effects due to internal transport.

Dealing with Sustainable Development (SD) in the field of road freight transport is what this research paper aims at.

We have set ourselves the following goals:

- 1- Assess the maturity level of road haulage industry as regards sustainable development practices.
- 2- Study the contingency factors<sup>129</sup> revealing the practices regarding sustainable transport, as a new conceptual model for a first road map inciting transport and logistics service providers to adhere to SD practices.

## **I. Sustainable transport: concept background and current status in Morocco**

Putting the subject into context requires a reminder of the basic concepts (section I-1), getting an overview of the current situation of sustainable transport in Morocco (section I-2), and finally we will move on to the definition of the problem being studied and the confirmation of the working hypotheses (II).

### I-1 : The concept of Sustainable Transport

Sustainable Development was adopted for the first time in 1987 as part of Brundtland report<sup>130</sup> that took up again in its definition of SD, the three fundamental pillars. In 1991, according to ECMT<sup>131</sup>, *to be described as sustainable, transport must largely contribute to the economic prosperity,*

---

<sup>129</sup>Lawrence P-R. & Lorsch J-W. (1967), "Organization and Environment: Managing Differentiation and Integration", Boston: Harvard Business School Press. 279 pages

<sup>130</sup> Brundtland Report, officially entitled *Our Common Future*, is a publication written in 1987 by the World Commission on the environment and the development of the United Nations Organization, presided over by the Norwegian Gro Harlem Brundtland. Used as the basis for the Earth Summit in 1992, the report has popularized the expression of « sustainable development » and has particularly brought a generally accepted definition of the concept.

<sup>131</sup>European Conference of Ministers of Transport.

*the social well-being without being harmful to the environment and human health*<sup>132</sup>.

The Canadian center for sustainable transport (ST), clarifies that sustainable transport must *make it possible to safely meet the needs in passenger transport and communities so as to respect human and ecosystem health, as well as with equity within and between generations; be affordable and effective, offer selection of the transport mode and encourage a vibrant economy; restrict emissions and waste in order to respect the planet's ability to absorb them, minimize the consumption of non-renewable resources, reuse and recycle the used components and minimize the use of land and the production of noise*<sup>133</sup>.

Certainly, cargo transport generates positive externalities that contribute to the economic development of spaces. However, greater mobility, the increase of the mileage travelled and tonnage involve negative externalities, such as: air pollution, noise pollution, traffic congestion, resources over-consumption, insecurity<sup>134</sup> ...

The stakes of ST are much more sizeable in respect to transport of goods. This is generally explained by:

- The growth rate (a factor between 2.6 and 3.5<sup>135</sup>) of the freight mobility against that of people.
- Resort to increasingly polluting modes of goods conveyance.

With regard to Moroccan economy, since the year 2010, the concept of sustainable development has clearly come into being within the context of sectoral policies and strategies of the State; even if the laws and regulations implying respect of the ecosystem subsisted formerly, but concretely, it has been only this year that they have taken on this strategic dimension and they have been the subject of political willpower.

Thus, investing and exchanging as part of sustainable transport was the subject of clear objectives and action plan only through the national strategy for logistical competitiveness in Morocco (program-contract 2010-2015).

---

<sup>132</sup>European Commission (2001), the European transport policy by 2010 : time to decide, white book, Brussels : European Communities Publications

<sup>133</sup> Centre for a sustainable transport, 1998, report of sustainable transport no.1, www.cstctd.org March, p.2.

<sup>134</sup> Corinne Meunier and Thomas Zéroual. Sustainable development and territories. Territorial Methodologies and practices of the evaluation as regards sustainable development. Sustainable Transport and economic development. Dossier 8 (2006).

<sup>135</sup> According to the International Transport Forum, following 2011 version of the mobility model of MoMo. In International Transport Forum. Transport Perspectives. Respond to the needs of 9 billion people. OECD. 2011

However, the exact figures of the Moroccan Agency for Logistics Development (MALD) on the state of progress in regard to a sustainable transport have not yet been so far communicated.

The only aspect that was underscored, by international fora, was Performance Logistic Indicator (PLI) as part of annual studies conducted by the World Bank (WB) and that shows that Morocco moved from 50<sup>th</sup> position in world ranking in 2012 to 62<sup>nd</sup> in 2014.

As part of a comparative approach, emerging countries, such as Indonesia and Vietnam, were able to improve their logistical performance thanks to a sustainable and integrated logistics within the world value chain.

This report adds that sustainable logistics constitutes the growth engine of these countries<sup>136</sup>.

Currently and at the European Level, the European commission, as part of their white book, indicates the main difficulties of the goods transport sector:

- Uneven growth of different modes of transport, with a best adaptation of the road to the needs of modern economy;
- Congestion of certain major trunk roads and rail routes;
- Pollution with regard to the environment and the health of citizens.

In order to combine between diametrically opposed externalities, the European commission suggested solutions linked to decoupling<sup>137</sup> (relative or absolute), or rather have recourse to the Co-modality, that is to say effective resort to combined modes thus allowing to reduce the harmful effects.

G. Joignaux and J. Verny (2004)<sup>138</sup>, initiators of these solutions, identified two levers that will foster a sustainable transport system:

- 1- either limitation of transport demand
- 2- or transfer of part of cargo transport demand to alternative modes, namely, through either a partial intermodal transfer or via multi-modality.

By occupying a significant part in the current researches, especially at the European level, we think that a real reflection on the sustainable transport must be carried out in Morocco (Researchers, professionals, competent authorities and civil societies).

---

<sup>136</sup>Jean-François Arvis and All. Connecting to compete. Trade Logistics in the Global Economy. The Logistics Performance Index and Its Indicators. The World Bank 2014.

<sup>137</sup>*This notion was defined by the OECD as reflecting the links between “what is bad environmentally” and “what is good at the economic level”. We will talk more of absolute decoupling when decrease in the mobility is foreseen and of a “relative decoupling” when prompting a modal shift is preferred, i.e. when we want to transfer the flows onto less polluting modes, as rail mode.*

<sup>138</sup> Guy Joignaux and Jérôme Verny. Freight Transport and growth: the problem of coupling/decoupling. De Boeck Supérieur. Reflections and perspectives of la vie économique 2004/4 –Volume XLIII.

We equally think that Morocco could ensure its integration in the European logistical chain (main partner in terms of trade) only through a sustainable logistics ensuring an economic growth as well as a social and environmental development.

The ingredients do exist, but in order to meet the objectives of sustainable growth, coordination between environmental policy, social policy and the goals in terms of economic growth entailed by the logistics and transport is necessary.

### *I-2: Sustainable development in Morocco: Current situation in transport and logistics*

According to the Ministry of Equipment and Transport, the haulage industry represents 65 to 80 million tons (nearly 13 Billion tons/km annually) be it 90% of national freight flows and provides 80% of freight transport jobs in Morocco. Being the main mode of domestic transportation of goods, this sector is experiencing a steady growth of about 6% annually.

*The haulage industry, being modernized following the reform entered into force in 2003, still remains generally deficient. It represents 90% of domestic transport costs and 95% of CO<sup>2</sup> emissions. The granularity of most truck flows and business models still archaic, companies of this sector beset the efforts of its structuring<sup>139</sup>.*

In terms of sustainable development, Morocco has shown a strong commitment to integrating this variable so as to ensure an economic growth less susceptible to climate hazards, coping with energy crises and minimizing the social cost.

In order to ensure that this objective is met, Morocco has related the goals of Sustainable Development to these sector-specific strategies.

Indeed, this decade was marked by the systematization of sectoral approaches. In addition, each key sector of the Moroccan economy has adopted its own strategy which sets objectives and transforms them into action plans, program-contracts to incorporate the private sector.

These strategies can be classified into two categories<sup>140</sup>; first and second generation strategies. The first generation strategies such as industrial strategy (Emergence of 2004 and Emergence II in 2009).The second generation strategies, such as the logistics contract-program which gradually incorporates environmental elements.

---

<sup>139</sup> National Strategy for the development of logistic competitiveness. Overview of the strategy and Program-Contract 2010 – 2015. The Ministry of equipment and transport. Morocco

<sup>140</sup>Sustainable Development in Morocco, Results and Outlook, June 2012: From Rio to Rio +20. Ministry of Energy, Mines, Water and Environment.

The strategy for the logistics competitiveness development, which follows other sectoral strategies (Emergence, Green Morocco, Halieutis, etc.) aims at:

- Promoting optimal management of goods flows, increasing GDP growth from 3 to 5 points by the year 2015.
- Generating 36,000 jobs in 2015 and 96,000 jobs in 2030.

The implementation of this strategy will result in lower CO2 emissions of 35% by 2015, as well as roads and cities will be decongested.

With this in mind, the year 2010<sup>141</sup> was marked by the introduction, as part of the action plan launched by the Ministry of Equipment and Transport, of the priority and main principles of the concepts of "mobility" and "Transport for a Sustainable Development".

In Morocco, the policy of sustainable development within the sector of transport and logistics is reflected on many levels:

*In terms of preventing of pollution and reducing emissions of greenhouse gases:*

To achieve this goal, the Ministry of Transport and Logistics has initiated activities mainly related:

- To renewing the road freight traffic fleet that exceed the period of 10 years in order to mitigate emissions of harmful gases;
- To upgrading the traffic control system and the technical inspection allowing a more stringent control of harmful gases emissions and a better engine performance.

*With regard to the environmental assessment:*

Taking the environment into consideration has henceforth become mandatory, especially with the adoption of the environmental charter:

- Integration of the environment component in infrastructure projects (environmental impact assessment);
- Detailed environmental assessment for projects whose impacts are significant or that pass through sensitive or protected areas;

For instance, so far, the public investment mobilized for the implementation of the national strategy for the logistics competitiveness is around MAD 2.4 billion. It deals with the construction of the road connection between the Harbor of Casablanca and the logistics area of Zenata for the land purchases in this area as well as the achievement of logistics platforms in Zenata and Mita<sup>142</sup>.

---

<sup>141</sup>Review of governmental achievements for the year 2010. Sectors of equipment and transport. Ministry of Equipment and Transport of the Moroccan Kingdom.

<sup>142</sup>Dry port of Casablanca.

*With regard to the development of environment-friendly modes of transport :*

The rail network has experienced considerable development compared to freight transport through the roadway. Rail transport development programs were launched in this regard (doubling of railway lines, capacity increasing, building of new lines).

However, a great effort is still required to improve the sector, particularly in terms of security of rail traffic (safety of level crossings), organizational development of the ONCF<sup>143</sup> and the installation of infrastructures that are able to operationalize the piggybacking (Road-Rail).

*With regard to energy efficiency:*

Some measures have been deployed but remain at an even earlier stage:

- Incorporation of energy efficiency principles in the training programs for professional drivers of freight transport ;
- Ensuring sound management of the flow of goods at the domestic level , by optimizing the intervention of road and rail transport based on the nature of the goods so as to reduce the consumption of petroleum products;
- Improving energy efficiency in the basic infrastructure and transport sectors (road, rail and air);

*On the social level:*

By organizing themselves within the General Confederation of Moroccan Companies (CGEM), economic operators have incorporated the challenges of sustainable development in their development strategy. The creation of CSR LABEL (Corporate Social Responsibility) in 2006 is in line with the international standard ISO 26000.

Through this initiative, the CGEM aims to promote the attractiveness factors of productive investment and long-term growth, which are from now on, human development, respect for the fundamental rights of the human being and the rule of law, the quality of employment conditions, regulation of labor relations, environmental protection, transparency and the effectiveness of competition rules.

## **II. Problematic of the study**

In the current investigation, we aim through this publication to address the issue of sustainable development in the field of road freight transport.

---

<sup>143</sup> Project of transforming the Moroccan National Railways Office (ONCF) into a public limited corporation (Moroccan Railways Corporation) (MRC).



While complying with the ethical rules of scientific research, we have set a core issue (II-1) that we have broken down into research questions (II-2) and working hypotheses (II-3) to be tested in the field of study (hypothetic-deductive approach).

To identify the scope of the study, we have chosen the region of Greater Casablanca.

### **II-1: Problematic:**

In order to combine the constraints of competitiveness and the objectives of the national strategy, to what extent freight transport providers (FTP) can incorporate in their mobility practices, the variable of sustainable development? Can we consider sustainable transportation as a real driving force for growth and development of FTP and therefore of differentiation or are there telltale contingency factors of sustainable practices?

### **II-2 : Research Questions :**

In this article, we will try to answer the following questions:

1. What are the stakes that drive Moroccan transport suppliers to integrate sustainable development into their decision-making systems?
2. Can sustainable transportation be a differentiating factor for Moroccan FTPs?
3. Are there any contingency factors (size, age, technology ...), discriminating and revealing specific practices of sustainable transportation among FTPs?
4. What is the maturity level of sustainable transportation practices (ST) in FTP (the case of the region of Casablanca)?

### **II-3: Formulating hypotheses:**

Through this publication, we offer to help identify behaviors adopted by Moroccan transport suppliers through the following hypotheses:

- **Hypothesis 1:** The adoption of the approach of "Sustainable Transport" by FTPs, depends on a number of factors, thereby facilitating its implementation.

- **Hypothesis 2:** The approach of "Sustainable Transport" among Moroccan Transport providers (FTP) (the case of Casablanca) is still maturing (*Below the mean*).

Subsequently, we will conduct an empirical study to test the validity of these hypotheses.

## **III. Research Methodology and exerted Instruments**

By adopting a descriptive approach to the problem and an explanatory approach in terms of factors to explain the degree of maturity of

transport companies with regard to the integration of sustainable development variables, we selected as part of our research the survey as an exploratory instrument (Quantitative approach). Processing and data analysis will be carried out using a specialized software.

### III-1: Instrument of the study

This is a questionnaire of 28 items, divided into five axes:

- 1) Material resources: organization and management;
- 2) Social and Societal Aspects;
- 3) Risk prevention and accidentology;
- 4) Environmental Policy
- 5) Outsourcing.

The survey design stage was completed by testing a pilot study carried on a small number of respondents; this has allowed validating the choices that were made in the context of the study.

This test allowed us to find out if the study protocol is realistic, if the content and form of the questions are tailored to the objectives of the study.

Concerning compilation and analysis, the questionnaire was devised for processing in a specialized statistical analysis software (SPSS, ...), thanks to the wide range of features designed for conception and treatment.

### III-2: Sampling determination criteria and corresponding method of calculation

We have identified as the target population, companies operating in the transportation and the logistics with a workforce (drivers and employees) of more than 15 people.

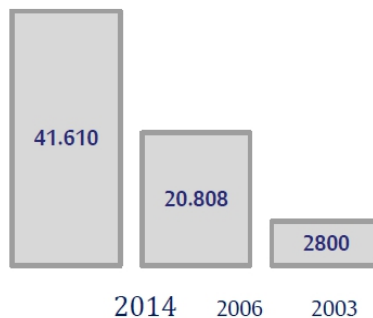
Justifications behind the choice of this condition are:

- The transport sector in Morocco is characterized by a high degree of atomization (Almost 90% of transport companies have only 1 or 2 vehicles and only fifty companies have a number 20 truck fleet)<sup>144</sup>;
- The concept of ST is almost absent in VSBs (very small businesses) and SMFs (small and medium-sized firms) struggling to survive;
- The latest official statistics of the Ministry of Equipment and Transport (September 2014).

---

<sup>144</sup> EuropeAid Co-operation Office, (2010), “ the logistics sector on the southern shore of the Western Mediterranean: Diagnosis and proposals for enhancing logistics services offer - Case of Maghreb countries: Algeria, Libya, Morocco, Mauritania and Tunisia”, October 2010, the European Commission- EuropeAid Co-operation Office (for Algeria, Morocco and Tunisia), p.59

**Figure no.1: Evolution of road haulage companies for hire or reward**



Source: Ministry of Equipment and Transport (September 2014)

Based on the latest official statistics available, the total population of our study is 41.610 companies registered in the road hauliers’ register for hire or reward up to the month of September 2014.

After the aforementioned data processing and projection, according to the linear trend curve, the evolution reckons that the number of business firms in 2014 will be 49.008.

We notice that out of 41.610 active enterprises in road haulage, we will only concentrate on the 1.72% having a number of vehicles ranging from 11 to 20 vehicles, namely 716 companies in Morocco (look at the table below).

**Table no. 2: Distribution of businesses based on fleet size**

Motor Vehicles	0	1	2	3 à 5	6 à 10	11 à 20	+ 20	Total
<b>Number of companies</b>	3.396	27.743	6.234	2.864	867	388	118	41.610
<b>Percentage of companies</b>	8%	67%	14%	7%	2%	1.72%	0.28%	100%

Source: Ministry of Equipment and Transport (March 2014)

According to the latest statistics, with reference to the distribution of business firms operating in transport for own account, Casablanca-Rabat-Kenitra axis consists of 49.5% of Transport service providers in Morocco<sup>145</sup>; Based on this fact, our final theoretical population will be 716x49.5%=354 business firms.

- Out of the 354 transport service providers covered by our study, we have targeted 100 companies as a sample, according to the sampling method “non-probability for convenience<sup>146</sup>”.

<sup>145</sup>Ministry of Equipment and Transport, (2007), “ Assessment of implementing the clauses of the law 16-99”, p.25

<sup>146</sup> It’s about interrogating reachable companies with a staff headcount superior or equal to 15 persons.

- The response rate compared to the sample is of 30%.
- We have decided to aim at this category of companies for a good representativeness of our study.
- The survey coverage rate with respect to the population under study (354) is of 8%.

### III-3: choice of the field of study

We have chosen Greater Casablanca as a field of study for several reasons<sup>147</sup> :

- The significance of industrial and commercial activity compared to the national average, with 2 578 industrial plants out of 7922 nation-wide (be it 32.54%), yielding a turn-over of about MAD 158 billion, being respectively 42.5% and 51% for permanent employment and turn-over at the national level.
- The GDP of Grand Casablanca region amounts to MAD 131.2 billion in 2007, namely 21.3% of the national GDP.
- The number of registered heavy goods vehicles (light and heavy-duty trucks and tractors) is equal to 10 996 (vehicles) 3 547 (tractors).
- 50.8% of import and export flows pass through Grand Casablanca, with regard to the tonnage handled domestically.

## **IV. Treatment and analysis of results**

For the case of our survey, and following a pre-test phase of the questionnaire, that has enabled us to make necessary changes and to validate the selected items, we have used the questionnaire by different ways.

Globally, on the 100 mailings corresponding to the questionnaire, communicated by all ways, we have succeeded in retrieving 30 well informed questionnaires, with an overall return rate of 30%.

The discussion of the results in the present study leads us to trace again the picture of practices of sustainable transport among providers (IV-1) and by the same to identify the maturity level of the aforementioned surveyed companies with regard to the question (IV-2 and IV-3).

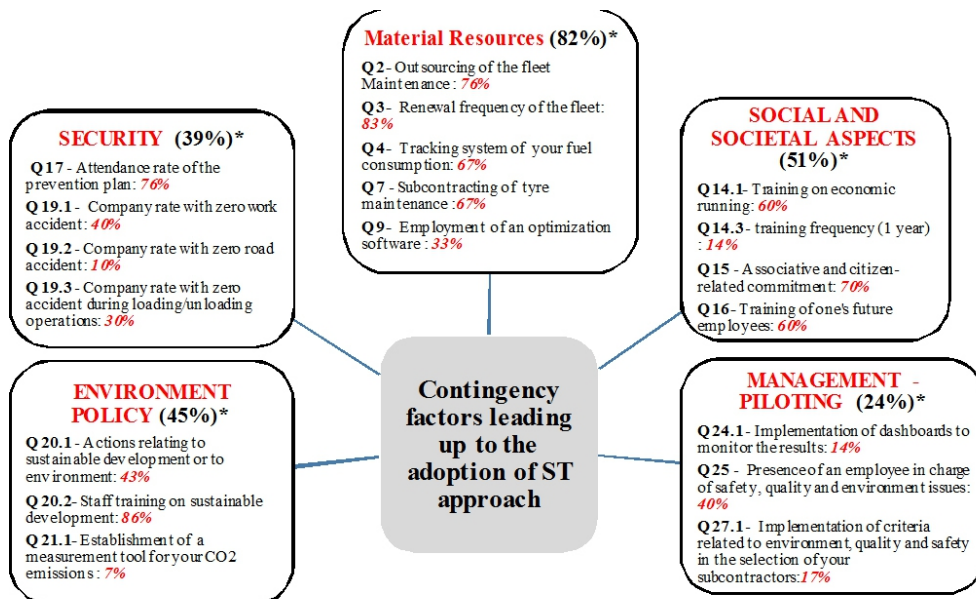
### **IV-I: The description of sustainable transport practices among surveyed providers of road transport**

The processing of data has enabled us to develop an overall appreciation or picture of the sustainable practices among providers of the road freight transport, surveyed in the region of Grand Casablanca.

Figure No. 1: Presentation of contingency factors associated with the adoption of sustainable transport approach.

---

<sup>147</sup> Morocco of the regions. High-Commission for Planning (2010)



\*: total rate of performances observed on all the elements of the study.

#### **IV-2: The maturity level of sustainable transport among surveyed Transport providers**

By means of this empirical study that aims at discovering sustainable transport practices among Moroccan transport providers in the region of Grand Casablanca (Morocco), we have observed that the objectives of access to information have been achieved at the qualitative level. However, at the quantitative level, surveyed companies reflect an inferior rate of involvement that is below average, in both sustainable transport practices as well as in their predisposition and willingness to adopt the said objectives in the near future.

This alarming fact is demonstrated by the following table and chart in which most of the questionnaire headings show that the global average of the performances is below 50%.

Table No.3: Distribution of satisfaction average according to questionnaire headings

Questionnaire headings	Average of satisfaction
Equipment means	82%
Social and societal aspects	51%
Management – piloting	24%
Environmental Policy	45%
Safety	39%
<b>Global average</b>	<b>48%</b>

The study of contingency factors has also enabled us to perceive that equipment performances come in the first place (82%). This does not

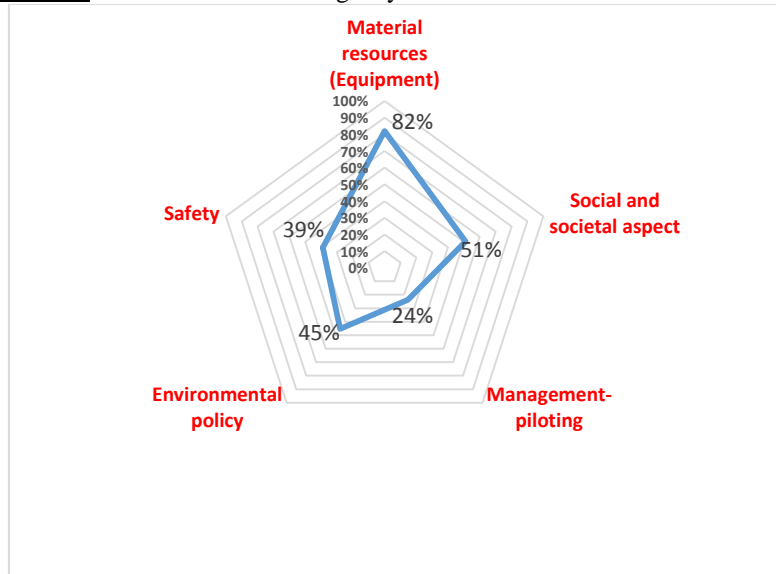
constitute any unexpected result at the end of this study; Yet, the material objectives rank ahead of all other aspects among shareholders and executives of surveyed companies. (Figure no.2)

Concerning societal aspects, they rank in second position (51%). Such result is naturally related to the major importance of human capital in the development of organizations, hence their development as a result of which, their loyalty for financial and economic performance is in process of continuous increase.

As to environmental performances of logistics providers surveyed in this study, they occupy the third place, with an average of (45%), thus justifying a limited interest vis-à-vis environmental and ecological aspects.

As for safety, it is positioned in the fourth place, with an overall percentage of 39%. Finally, the poorest performance is that of Management/ piloting practices which comes at the end with a rate of 24%.

Figure No.2: Measurement of contingency factors as a lever for sustainable transport



## IV-2: The validation of hypotheses

According to the series of analyses, interpretations and conclusions developed throughout this research project, we come to validate our hypotheses that were previously formulated.

### ➤ The first hypothesis

As far as the first hypothesis is concerned, it stipulates that: the adoption of “a sustainable transport” approach by Moroccan transport providers depends on a set of factors, which facilitates its implementation.

The results have revealed to us that there is a set of common factors between committed companies which allow an optimal implementation of sustainable transport. The idea of facilitating and motivating factors has been developed from the theory of contingency factors in the works of Lawrence & Lorsch (1967)<sup>148</sup>. The founding principle of their theory consists in the alignment of the organization to its environment on the basis of a deep analysis of the encountered problem along with the characteristics of organization. Henceforth, such study allows characterizing the situation so as to be capable of identifying all possible options.

The theory of contingency factors explains the way with which the external system conditions forms of successful organizations.

### ➔ The second hypothesis

Concerning the second hypothesis, it is formulated as follows: *The approach for «sustainable transport» among Moroccan transport providers (case of Casablanca city) is still in process of maturation (below average).*

As it is indicated in table No. 3, the overall rate of performances in the five axes of this study (material resources (equipment), social and societal aspects, management - piloting, environmental policy and safety) leading to the materialization of sustainable transport is 48%, be it an insufficient average (inferior to 50%). Such result makes it clear that we cannot speak of a fair minimum in the practices of sustainable transport.

### Conclusion

In conclusion, and despite the economic importance of the road haulage sector at the national and international level (namely European), the operators of the sector emphasize a real slackening of the activity.

In Morocco, the main causes are the invasion of the European fleet (large groups well seasoned and informed) against national providers whose leveling up and support proved to be urgent.

And internationally, the succession of economic crises and the uncontrollable evolutions of diesel prices resulted in a decline in activity observed by the haulers. This has an impact on their economic and therefore social performance.

According to the study that we have conducted and highlighting of the implementation factors of a sustainable transport, it clearly seems that this objective is far from being a priority for the FTP, given that market pressures and competitiveness constraints have as a basic rule, price in the first instance and service in the second place.

---

<sup>148</sup> Lawrence P-R. & Lorsch J-W. (1967), "Organization and Environment: Managing Differentiation and Integration", Boston: Harvard Business School Press. 279 pages

In order to encourage the transport service providers to join a real sustainable transport policy, we think that, it is necessary to support them by way of incentives, such as (transport taxation, application of a diesel indexing system so as to revalue transport price following the example of certain European countries, the improvement of road infrastructural capacities, particularly national and regional roads, an implementation of traffic regulatory constraints (working time, banning circulation of heavy vehicles in urban areas ...).

So as to find sustainable solutions to a mode whose effects on the other complementary modes (rail, sea, air...) will only be positive, a wide-scale debate is necessary. The sustainability of road haulage industry does not necessarily mean reducing the mobility of goods; but rather the mobility of vehicles by a reduction of travel distances and of ton-kilometers. To reach such an objective, it is necessary to:

- Innovate in respect to organization (haulers' grouping) ;
- Invest in infrastructure (logistic platforms, network...);
- Implement action plans capable of insuring a good modal and spatial distribution ;
- Develop inter-modality. From our perspective, it is time to develop terrestrial inter-modality (piggybacking or rail-road) of which the beneficial effects no longer have to be proven.

Reorganizing the transport networks and therefore flows that will allow us to find solutions and answers to a set of problems (road and highway congestion, non renewable energy consumption, road unsafety, sound pollution ...).

Multimodal transport remains a solution for the future. Indeed, the modes combination allows a drop in oil consumption, a massification of transported cargo volumes and leads to cost-savings (economic, energetic and social).

## **References:**

### ***Articles :***

BMCE CAPITAL RESEARCH, (2013), "Focus Strategy: Logistics, key sector for the development and national competitiveness", 9 May 2013.

Centre for sustainable transport, 1998, report of sustainable transport no. 1, [www.cstctd.org](http://www.cstctd.org) march

European Commission (2001), The European transport policy by the year 2010.

Corinne Meunier and Thomas Z roual. Sustainable Development and territories. Territorial Methodologies and practices of the evaluation as regards sustainable development. Sustainable Transport and economic development. Dossier 8 (2006).



International Transport Forum, following 2011 version of the mobility model of MoMo. In International Transport Forum. Transport Perspectives. Respond to the needs of 9 billion people. OECD. 2011

Guy Joignaux and Jérôme Verny. Freight Transport and growth: the problem of coupling/decoupling. De Boeck Supérieur. Reflections and perspectives of la vie économique 2004/4 – Volume XLIII pages 5 to 5.

Houria BENCHERIF. Towards a Sustainable Road Haulage in Algeria. National School of Application of Inland Transport Techniques NSAITT – Batna – Algeria

LAWRENCE P-R. & LORSCH J-W. (1967), “Organization and Environment: Managing Differentiation and Integration”, Boston: Harvard Business School Press. 279 pages.

EuropeAid Co-operation Office, (2010), “the logistics sector on the southern shore of the Western Mediterranean: Diagnosis and proposals for enhancing logistics services offer - Case of Maghreb countries: Algeria, Libya, Morocco, Mauritania and Tunisia”, October 2010, the European Commission- EuropeAid Co-operation Office (for Algeria, Morocco and Tunisia).

Ministry of Equipment and Transport, (2007), “ Assessment of implementing the clauses of the law 16-99”, p.25

European Communities Publications. Time to decide, white book, Brussels.

#### **Reports :**

Review of governmental achievements for the year 2010. Sectors of equipment and transport. Ministry of Equipment and Transport of the Moroccan Kingdom.

DEPARTMENT OF THE ENVIRONMENT, (2012), “Sustainable Development in Morocco, Results and Outlook: From Rio to Rio +20”, June 2012, Ministry of Energy, Mines, Water and Environment.

Jean-François Arvis and All. Connecting to compete. Trade Logistics in the Global Economy. The Logistics Performance Index and Its Indicators. The World Bank 2014.

Morocco of the regions. High-Commission for Planning (2010)

Ministry of Equipment, Transport and Logistics, (2014), “Road Haulage in Morocco: Current Status and Outlook”.

Ministry of territorial planning and environment, (2005), “National Strategy for Sustainable Development (SNDD) in Morocco”.

National Strategy of development and logistic competitiveness. Overview of the strategy and Program-Contract 2010 – 2015. Ministry of Equipment and Transport. Morocco.

**Web-Sites:**

<b>Sites</b>	<b>Description</b>
<b><a href="http://donnees.banquemondiale.org/">http://donnees.banquemondiale.org/</a></b>	World Bank data
<b><a href="http://www.bmcecapitalbourse.com">http://www.bmcecapitalbourse.com</a></b>	A portal of online transaction management for the clients, individuals and enterprises of BMCE Bank
<b><a href="http://www.environnement.gov.ma">www.environnement.gov.ma</a></b>	Official Web-Site of the Department of the environment belonging to the Ministry of Energy, Mines, Water and Environment