House of Quality (HoQ) Regarding Truck Drivers Requests

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Quality Engineering & Italian Transport Companies

Analyzing an Italian Transport Case & House of Quality (HoQ) and Drivers’ Needs

This paper represents a preliminarily attempt to benefit from Quality Engineering methods for analyzing some parts of the real and hidden worlds of some Italian family-owned transport companies. It does not take into consideration international logistic and transport companies such as DHL, FedEx, TNT and others working in Italy, but instead tries to highlight some things that normally remain neglected regarding the hidden internal workings of some Italian logistic and transport companies. In addition, this paper might be interesting for whoever wants to know more about this period in which some Italian family-run transport companies are facing the challenge of a future balancing modernism and traditionalism in their supply chain management (SCM) methods.

From A Brief History Into The Lean And Integrated System (LIS)

In 2014 for some months, I had the chance to work in an Italian transport company that manage and hold by a traditional Italian family from the Nord. I worked there as a very low wage driver and worker of internal logistics in the company warehouse and not any thing more. I was not manager or CEO only I was a student and I needed some money to cover my life expenses.

However when you work, not as a manager and everybody looks at you as the last arrived simple worker, you will see many things that top stylish managers can not find out, such as hidden behavior of workers and company owners. You will understand some relations between elements that you have never imagined before.
In this atmosphere I saw a “traditional-modernize transport” managing system. Not only see that but hardly and toughly feel that. I talk about the structure that is and that is not hierarchal with a great separation between the functions. I talk about the roles and rights those are mixed and neglected sometimes. When I heard about Lean and Integrated System (LIS) and House of Quality (HoQ) one again in the Quality Engineering course of prof. Domenico Maisano\(^1\) I started critically think about “Italian Transport” companies those manage by Italian families.

Members of “Family” manage every things on base of their personal and non academical experience. They believe that the main problem they have is only “economy crisis”. In their mind, Italian economy crisis is the unique problem that threat the Family not any thing else. They believe that their ignorance about “the modern business world” and new technological facilities is not or could not be the source of their problems.

They only trust to the other members of family not strangers and no any one else. That means that in addition of Top Executive Managers even the middle managers should be members of family. Other human resources are just “simple workers” (even if on the paper they have some symbolic position). Workers are strictly asked to work hard and they should follow and obey the STAFFs (middle managers), owner (Top Executive manager) and his wife (family’s mamma). It means that even if you are graduated in Supply Chain Management (SCM) or if you have more academic information about logistics or transport or information technologies, you have NOT any space to realize your ideas if mamma doesn’t want.

Furthermore these kind of companies are not familiar with modern Accounting systems, Customer Relationship Management (CRM) systems, SCM systems etc. Their traditional Italian transport structure creates a kind of separation between functions and workers within hierarchal chains. They sometimes perceived the problem of their system structure but they were not able to identified the origin of their problems. Mamma and her sons sometimes disassemble that heavy and separated hierarchal structure and manage the company cross functionally without recognizing the issue.

However with this technique they are able to receive some “not filtered” and “not distorted” information but that is not a sustainable solution. This attitude will disappear quickly because the Traditional Italian Transport Companies did not believe that Lean and Integrated System (LIS) has an agile, adaptive and flexible structure that could create an interactive strategy with customers thus creating a great synergy between the functions and all workers (include drivers).

\(^1\) prof. Domenico Maisano; Politecnico di Torino
A House of Quality Belongs to Drivers (QFD 4 Transporters)

After this introduction and a brief dive into the world of Italian family-owner transport companies the moment has come to “dedicate” a House to the drivers who work hard in (sometimes) unfair and inhuman conditions. A House of Quality (HoQ) regarding truck drivers requests is our Voice of Customer (VoC) in this case.

In order to collect the fundamental information that helped me to understand some real requests of truck drivers, I interviewed and talked with numerous drivers from Italy and east European countries. Some of them did not even know their rights as a laborer because they were asked to sign a contract that was not even written in their own native language. Companies hire them and it seems like that they are working for a foreign company in Czech Republic or Romania.

Furthermore, their desire as clients of our house of quality should be considered. These considerations regarding the real wants of truck drivers who work in Italian transport family-run companies have been included below. It should be noted that the principal phases which are necessary for the construction of the House of Quality (HoQ) or Quality Function Deployment (QFD) are: Identifying customer requirements (VoC), Identifying product and engineering design requirements [Voice of Engineers (VoE)], Drawing up a Relationship Matrix, Deploying the perceived quality (competitive benchmarking), Ranking of the technical characteristics (HOWS) importance and analysis of the correlations among the technical characteristics. The following figure shows the House of Quality (HoQ4Driver) and its main components:

2 For more information, see “Freedom Of Establishment Within The European Union & Italian Transport Companies”
The **First** fundamental step to create the **HoQ4Driver** is to determine customer requirements (**WHAT** drivers want) or in other words collection of the voice (needs) of the customer (**VoC**). The **VoC** is generally collected using interviews or questionnaires. Below is a list of collected data with respect to HoQ4Driver:

- Better and Higher Salary / Italian Contract
- Guaranty to receive the wages
- Mid-day Rest (45 min. that is obligated by law)
- Nocturnal Rest (11 hours)
- Weekend Rest (45 hours)
- Finish working and visit family daily
- Finish working and visit family weekly
- Availability and collaboration
- Driving standard / safe trucks
- Respect

The **second** fundamental step to create QFD is the determination of the technical characteristics (**HOW** meet customer [Driver] needs). In this step the customer requirements, expressed in subjective terms must be translated into objective technical characteristics (**VoC → VoE**). Each driver requirement should be associated to a number of technical characteristics. Technical characteristics should be objective and expressed using objective measurement scales.

- Increase the Salary
- Increase Operation Costs
- Not Overhead Human Resources
- Respect Traffic Rules
- Study and Respect SCM technics
- Educated Behavior
- Create Friendly-Collaborative Atmosphere
- Encourage Horizontal Collaboration
- Technical Mechanic Office / Laboratory
- Smart Maintenance System
- IT Work Group
- Lean and Integrated System (LIS)
- Accounting System
- Financial Engineering / Financial Capability
- Technical / Mechanical Quality Control (QC)

The **third** fundamental step is creation of relationship matrix. The inter-functional team has to determine how the technical decisions affect the satisfaction of each driver needs. The relationships intensities are 9 (**9**) for strong coordination, 3 (**3**) for intermediate and 1 (**1**) for week coordination. If there is no any relation between the needs and technical characters, the cell will remain unfilled.
Sequently, the **fourth** fundamental step is perceived quality deployment or prioritization of drivers requirements. In this step truck drivers are asked to rate the importance of each quality requirements. The “degree of importance” or evaluation is ranked from one (1) - **not considered a strength**, two (2) - **a possible strength**, down to five (5) - **a very important strength**.

**Benchmarking On The Basis Of Perceived Work Condition Quality**

Drivers are asked to rate how well their current work situation compares to the competitors’ conditions, according to every VoC’s requirements. The values are entered in the current company model and the competitors (such as BRT, DHL, FedEx, GLS and TNT).

**Target Values Of Expectations**

An improvement ratio is calculated by dividing target condition performance level by the importance of the current situation. In this step our company (our case study) could identify its strengths and its weaknesses.

**Summary:**

It is currently common for some Italian transport family-owner companies to work in a conventional way. They do not try to encourage horizontal collaboration between drivers or between their employees. These companies do not attempt to eliminate any negative competitiveness, friction and destructive conflict between their workers. These companies are strongly against drivers’ unions as well. In addition, the correlation matrix distinctively highlights the relationship between the arborescent characteristics. The HoQ4Drivers illustrate the strict necessity for the following: supply chain management (SCM) studies, human resource (HR) organization and optimization systems, financial engineering (FE) and financial capabilities, technical and mechanical quality system control (QC), Lean and Integrated System (LIS) and finally, Information System Technologies (IST) with respect to the traffic rules, to optimize the organizational structure of an Italian logistic transport company and create more efficient, sustainable work methods.

In conclusion this paper has already generated a crystal clear idea of HoQ and QFD usage in your “beautiful mind”\(^3\) regarding the transport and logistics world and concerning labour rights and our ethical duties.

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\(^3\) See “The Last Lesson From John Nash & Safe and Sicure Transport Systems”
Resources:

• Domenico Maisano, Slides and course notes, Politecnico di Torino


• A. Villa, De Toni, Palazzolo: Gestione della produzione, Isedi, 2013

• Paolo Brandimarte, Giulio Zotteri; Introduction to Distribution Logistics; A John Wiley & Sons, Inc. Publication; 2007

• Trasporto merci su strada, è una pubblicazione a cura di: ANFIA - Associazione Nazionale Filiera Industria Automobilistica - Area Studi e Statistiche Automobile Club d'Italia - Area Professionale Statistica

• Ministero delle Infrastrutture e dei Trasporti, DIPARTIMENTO PER I TRASPORTI, LA NAVIGAZIONE ED I SISTEMI INFORMATIVI E STATISTICI, DIREZIONE GENERALE PER I SISTEMI INFORMATIVI, STATISTICI E LA COMUNICAZIONE: UFFICIO DI STATISTICA, SISTEMA STATISTICO NAZIONALE: Conto Nazionale delle Infrastrutture e dei Trasporti

• Analisi e previsioni per il trasporto merci in Italia, © Confcommercio-Imprese per l'Italia

• Logistics and supply chain management: creating value-adding networks / Martin Christopher. -- 4th ed. PEARSON EDUCATION LIMITED

• O'Brien, Marakas: Introduction to information system; 16th edition


• Sajjad Khaksari Blog: http://italiancoaddress.blogspot.it
### Title
TRUCK DRIVERS REQUIREMENTS (The HoQ4Drivers)

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### Notes
The HoQ4Drivers illustrated the strictly important of using SCM, HRM, LIS and all available Information System Technologies (IST) to improve organizational structure of the system and the efficient method of working.

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LIS and all available Information System Technologies (IST) to improve The HoQ4Drivers illustrated the strictly important of using SCM, HRM, LIS and all available Information System Technologies (IST) to improve organizational structure of the system and the efficient method of working.

### TRUCK DRIVERS REQUIREMENTS (The HoQ4Drivers)

#### Relative Weight

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#### Target or Limit Value

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#### Competitive Analysis

- **0** = Easy to Accomplish, **10** = Extremely Difficult
- **0** = Zero, **5** = Not Necessary, **10** = Not Important
- **0** = Not So Important, **5** = Not Important, **10** = Not Important
- **0** = Company Needs, **5** = Company Wants, **10** = Our Company
- **0** = BRT, **5** = TNT, **10** = GLS
- **0** = Strong Negative Correlation, **3** = Weak Relationship, **6** = Moderate Relationship, **9** = Strong Relationship
- **0** = Company Needs, **5** = Company Wants, **10** = Our Company
- **0** = Competitive Analysis, **5** = Competitive Analysis, **10** = Competitive Analysis
- **0** = Investment Value, **5** = Relative Weight, **10** = Max Relationship Value in Column
- **0** = Natural Value, **5** = Standardized Value, **10** = Standardized Value
- **0** = Weight / Importance, **5** = Difficulty, **10** = Max Relationship Value in Column
- **0** = Relative Weight, **5** = Weight / Importance, **10** = Difficulty

#### Quality Characteristics

- **Respect Traffic Rules**
- **Study and Respect SCM technics**
- **Not so Important**
- **Zero**
- **Not necessary**
- **Additional Performance Value**
- **Target or Limit Value**

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