

Marketing and Technical Security in a Station for Carburant Distribution with Open Fire Risk

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Abstract

Marketing in a relatively new concept and assuming of the marketing concepts by a company represents a change. This process of changes and, in particular, of marketing have to be foreseen, coordinated, controlled, in one word it has to be conduct, that giving reason for clarification of the concept of marketing management. The main activities of the big companies reside in petroleum and gases exploitation and production, execution of petroleum and petrochemical products, as well as their sale on the internal and international market. Sale for population is made by carburant distribution terminals (stations/ oil stations).

Key words: *marketing, research, management, carburant distribution terminal (oil station), fire, operation.*

Foreword

The petroleum and the products obtained following its processing have become an essential ingredient of good wealth and comfort for the contemporary society, for the modern man. Today, the human life can not be imagined without petroleum. From petroleum we can obtain crude oil, gasoline, diesel oil used to produce heat or electrical energy and for auto vehicles running.

The thermal engines use a fuel as energy source that, burning in certain conditions, in the presence of air, give a quantity of heat transformed then in mechanical energy. The most used fuels for internal burning engines [1] come from crude oil processed by many chemical and physical treatments. These fuels, due to functional features of the engines they are used for, are divided into:

- gasoline – for spark-ignition engines;
- diesel oil – for compression ignition engines;
- crude oils – in mixtures for turbo engines.

The business success of every company is provided by its capacity to identify the consumers needs and to offer them services or/and products to satisfy them. For the company, the results are only external while inside it exists only costs. In P.Drucker opinion “the result of a company is a satisfied client”.

The need of using the petroleum products brings the necessity of new storing points as well as points of sale and marketing. The problem to solve is the improving and effectiveness of transport and storing and also protection and quality of environment, protection of the existent eco-systems.

In Romania, the acquisition, storing, distribution (logistics) activities for liquid petroleum products such as: gasoline, petroleum, kerosene, diesel oil, crude oil, LPG is made by the greatest oil companies: Petrom, Petrom-OMV, Rompetrol, Lukoil and Mol.

Evolution and development of an organization means changes in different compartments and fields in order to adapt to the environment changes or even to anticipate certain environment changes to benefit different opportunities.

Marketing Management

The marketing management [2] represents the analyze, planning, implementation and control activity for the programs regarding designing, promotion and maintaining of the advantages resulting from exchanges aiming to satisfy the organization objectives. The marketing management aims at achieving the marketing objective, taking into account the organization resources and the market position such as planning and execution of activities in order to fulfill the objectives. If these are appropriately fulfilled, the consumers' needs are accomplished in superior conditions and the organization activity is efficient in the same time.

Beside these two basic functions of the management, organization and execution, the marketing management has two distinct functions - products sale and development by implementation of the new products. Both of them are important but these two functions have to be simultaneously developed in order to have a profitable activity of organization.

The Marketing Research Role in the Decisional Process

The entire process of the marketing research aims at answering to the problems the managers face with, regarding choosing the most adequate action. The marketing research hints at identification of decisional versions and their assessment from the point of view of the company objectives, of possibilities of increasing the profits and the degree of complying with the clients needs.

However, performing the marketing research does not guarantee adoption of the most profitable decision. The marketing research is a beginning for the decisional activity. Nevertheless, it does not substitute the decision drawing up.

The decision responsibility and assuming of all the risks belongs totally to the manager who proves his choice on the research results. The role of the research marketing is to present the possible solutions and to propose recommendations and the manager is the one who will adopt the final decision.

The marketing research could be a method of upgrading the information regarding the features of the environment where the organization activates. The control task of the leadership means the research contribution in knowing the market reaction with regard to the marketing initiatives of the company and identification of areas that requires new actions from the company.

The Marketing Strategies

In the market economy, every organization and especially an organization with lucrative role, designs its own policy by which it creates the development actions for the future as well as the concrete ways to achieve them; this policy has to assure its presence on the market and especially its general development.

A basic component of the company policy is the marketing policy, which gives the possibility for a real and quick interception of market signals, allowing a rapid adaptation to the market changes with maximum efficiency. Thus, the company could make a correct assessment for the market parameters and could give the resources according to the real request; it could see the uncovered segments in the market and the comparative advantages regarding the competitors.

In the present conditions no company agrees to operate without having a clear perspective both on short term and long term, to assure its subsistence but also the rationality and efficiency while the environment becomes more and more complex and dynamic. In respect of the multiple changes occurring both in micro-environment and macro-environment, the company has to manifest a certain behavior, a certain attitude materializing in delimitation of strategic directions, and practical methods to fulfill them, which is reflected into the marketing policy of the company.

The Terminals (Stations) for Carburant Distributions

Levels of performance, measures and conditions are to be established regarding the designing, execution and operation of the carburant distribution stations for the auto vehicles, in accordance with the provisions of norms [3] and also in accordance with other specific regulations, in order to assure the achievement of quality requests stipulated in Law no. 10/1995, regarding:

- resistance and stability;
- safety operation;
- safety on fire;
- hygiene, human health, environment protection and reconstruction;
- thermal, hydrous isolation, and saving of energy;
- protection against noise.

The Components of the Terminals (Stations) for Carburant Distribution (Oil Stations)

A fixed oil station (fig. 1) has the following components, no matter which is the type of the store house:

- the carburant store house, with one or more tanks, with discharging vents mounted directly on the tank or grouped, in a house;
- the distribution pump platform for the carburant and the respective cover;
- the station cabin;
- the hydrocarbons;
- access way and, if the case, parking areas;
- utilities system.



Fig. 1. Terminal (station) for carburant distribution

The transportable oil station has one or more containers and respective circulation and parking areas, if the case may be. The container has three distinct spaces:

- the space designed for the carburant tank (for gasoline and diesel oil);
- the space designated for carburant crossing pumps from auto cistern to tank;
- the space designated for the station personnel (the personnel operation cabin);
- construction of container consists of an external niche where the distribution pump for carburant distribution to the auto vehicle is mounted.

Optionally, in a station of carburant distribution for the auto vehicles (oil station), you may find: shop for auto spare parts, lubricants and/or food or non food products; car wash; maintenance point (air-water); workshop service car; supplying systems for LPG; spaces for automobile oil change; sale points for gas cylinder; public alimentation points, bar, fast food or restaurant; accommodation, motel, hotel with or without public alimentation; parking areas for big auto vehicles.

The carburant distribution stations for auto vehicles should have technological installations [4], equipments and minimal necessary endowments in order to ensure:

- storing and delivering of the carburant in safety conditions;
- maintaining of the chemical-physical features of the stored carburant, tracking and controlling of the parameters regarding their quality;
- operation of installation in safety conditions for the personnel, users and environment;
- a low degree of environment pollution;
- fire preventing and extinction.

The devices, equipments and systems from oil stations endowment have to be adequate for the type of the distributed carburant, have to be homologated, certified and, if the case, adorned according the regulations into force.

Ex Division into Zones

The carburant such as gasoline and diesel oil are liquid inflammable substances, which in combination with air could form explosive mixtures. The inferior limits for explosion are under 1% for gasoline and about 6% volumes of vapors into air, for diesel oil.

In order to prevent fires and explosions, as well as to limit the fire spread, the designs should contain specifications regarding areas with explosion danger and also details about extensions of these areas, assuring protection methods according to the danger. The areas with explosion danger are established for normal operation conditions of the technological devices and equipments specific for the carburant distribution stations. When the extension area with

explosion danger are established, you have to take into account the normal operation conditions of the devices and equipments, as well as their appropriate running, not taking into account the unpredictable situations generated by: inobservance of work instructions, technological discipline, changes or modifications, infringement of legal provisions as well as the exceptional situations (calamities, catastrophes).

The walls made of reinforced concrete or masonry, plastered on both surfaces, without holes are considered as walls resistant to the passing of carburant vapors. Small holes are admitted for utilitarian installation tight adequately.

The safety conditions for users will be made by arranging the objects in the hall assuring the protection measures according to the danger of fire or explosion, in accordance with the regulations into force.

Terminals Equipping and Endowment for Carburant Distribution with Tools and Instalations of Fire Prevention and Extinction

Fixed oil stations

Equipping with signal and extinction installations for fire at annexes and auxiliary buildings within the structure of carburant distribution station is made in accordance with the specific technical regulations, according to the fire safety scenarios and assessment of defense capacity against fire.

The oil stations situated in localities where there is a public water network will be equipped with external hydrants having minimum 5 l/s flow, assuring minimum one external hydrant at maximum 120 m from the station objects; there will also be the necessary accessories for water passing (portative hydrant, hoses "C" type, repression pipes, keys etc.), according to the special technical regulations.

In localities where there is no street network of external hydrants but there is a natural water source in the oils station vicinity until to 400 m, accessible for auto specials of interventions (lake, pond, or river), which could assure the necessary flow for intervention, the oil station owner is obliged to arrange a platform for supplying intervention cars in case of fire.

For the oil stations that do not fulfill the requirements of provisions stipulated in art. 7.2 and art.7.3, based on the scenario regarding fire safety and assessment of capacity of defense against fire, it is recommended to assure a minimum of 50 m³ water reserve to extinct the fire from external side. If the vicinity of the station requires special conditions, the water reserve will be dimensioned in an appropriate way.

The store houses having above ground tanks, no matter what is the area of location, are equipped with external hydrants installations in order to assure the cooling in case of fire, dimensioned according to the specific technical regulations into force.

The carburant distributions stations are endowed with intervention devices, such as:

- underground carburant store houses, having a total capacity of storing in underground tanks to 150 m³:
 - two transportable extinguishers, from which one with foam or equivalent and one with powder;
 - two portative foam extinguishers or equivalent and powder extinguishers for the carburant distribution stations with one or two pumps, and one pair of portative extinguishers for each supplementary pump.

- carburant store houses with underground tanks having a total capacity of storing the underground tank between 150-300 m³:
 - three transportable extinguishers, from which two with foam or equivalent and one with powder;
 - three portative extinguishers with foam or equivalent and three with powder for carburant distribution stations that have one or two pumps, plus one pair of portable extinguishers for each supplementary pump.
- store houses with above ground covered tanks:
 - three transportable extinguishers, from which two with foam or equivalent and one with powder;
 - three portative extinguishers with foam and/or three with powder for carburant distribution stations that have one or two pumps, plus one pair of portable extinguishers for each supplementary pump.
- store houses with above ground tanks:
 - three transportable extinguishers with foam and one with powder;
 - three portative extinguishers with foam and three with powder for carburant distribution stations that have one or two pumps, plus one pair of portable extinguishers for each supplementary pump.

The extinguishers will have the following capacities:

- transportable foam extinguishers - minimum 90 kg/pc.;
- transportable powder extinguishers - minimum 125 kg/pc.;
- portative foam extinguishers - 6 ... 9 kg/pc.;
- portative powder extinguishers - minimum 6 kg/pc.

The auxiliary buildings and annexes are endowed with portable extinguishers, according to the P 118 provisions.

Transportable oil stations

Transportable oil stations are equipped with fixed installation for fire extinction with powder for the area designated to the carburant store house. The installation will have minimum 50 kg powder and the technical conditions will be with manual and automatic action. The extinction installation with powder could be replaced by extinction installation with aerosols, foam.

The transportable oil stations are endowed with intervention tools in case of fire, such as:

- two portative powder extinguishers, having 6 kg each and 2 portative foam or aerosols extinguishers;
- one transportable foam extinguishers of 90,00 kg.

The transportable oil stations are endowed with a fireboard containing: accessories for water passing (portable hydrant C type, key for underground hydrant, hose C type /2 pcs.; repression pipe C type – 2 pcs.; junction keys B, C – 2 pcs.), as well as other intervention tools (shovel – 2 pcs.; metallic hook with pole – 2 pcs.; zincked bucket 12 liters – 2 pcs.).

Endowment with tools for water repression is mandatory only for transportable oil station situated in areas equipped with water installations with external hydrants.

The container is equipped with thermal detectors to indicate the fire; they have to release the extinction installation; the container is equipped with a system to control the explosion concentration, stationary sensorial explozimeter Ex mess.

Fire Preventing and Extinction Measures. Safety Operation Measures

All the measure and control devices from the tanks and carburant distribution pumps and safety systems have to be checked, supported and maintained in perfect operation condition.

It is forbidden to perform any changes to the constructions or technological and utilitarian installations of the oil station, without an elaborated and approved documentation, according to the legal provisions.

It is forbidden to use the electric installation with damages or improvisations.

It is forbidden to collect any residues or combustible liquids in open, improvised basins (pits) within the carburant distribution station.

The possible accidental carburant leaks are removed by cleaning with water and they will be taken over by hydrocarbon separator. It is forbidden to remove the accidental leaks by cleaning and then overflowing into the rivers, ponds, lakes or on the land around the oil station.

At the carburant distribution station without water source, the carburant leaks collection is made with dry sand, stored in special places, far away from fire sources and it is periodically removed to an incinerator specialized in petroleum products destroying.

It is forbidden that the oil station personnel to use clothes, underwear and other objects made of synthetic materials, as well as shoes that could produce sparks by hitting or friction, capable of ignite the inflammable vapors.

Each type of carburant is stored in the established tanks or compartments, being forbidden to change their destination from one type of product to another, without taking all the necessary preparation measures (cleaning, emptying etc.).

It is mandatory to observe the tank capacity - according to the design – as well as functioning of their devices.

Carburant discharging from auto cisterns in the underground tanks of the oil station is made only in the places established in the project, marked and arranged accordingly.

During carburant discharging, auto cisterns, the emptying pipes and the metallic parts of the discharge platform (if there is one), have to be electrically connected and the entire system must have ground connection.

Carburant discharging from auto cisterns is made only when the transporter engine is stopped, with permanently surveillance from the driver.

For discharging are admitted only auto cisterns special designated for petroleum products transport, having the technical revision made, accepted by R.A.R. The oil station personnel will check the position of the exhaust pipe, the existence of the identification marks of the products, existence of extinguishers, the box with sand and the shovel.

During the discharging it is forbidden the traffic of other vehicles, the access of unauthorized persons, the open fire and smoking around the discharging areas.

It is not admitted to use crowbars, pipes, hooks or other tools which could produce sparks in order to close or open the taps, as well as the use of the taps with non-tightness.

The technological pipes of the carburant distribution pumps will be under surveillance and maintenance in order to have a permanent tightness.

Any carburant leak will be immediately removed, repairing the faults. The garretings will be in conformity with the junction type and according to the nature of the carburant.

It is not admitted to use non-homologate carburant distribution pumps for the respective products, as well as when they have damages, such as: carburant leaks because of the non-tightness at junctions, pumps and its subassemblies, fissures of the elastic connection etc.; damages of the electric installation, including the ground connection; the overheating of the bearings or the pump; strong vibrations, noises or suspect hits etc.

Defrosting of the installation, pipes, pumps etc. is made only with warm water, warm sand or other means that are not susceptible of fire. It is strictly forbidden to use open fire, of any kind (lamp, torch etc.).

It is not permitted to supply carburant if the cars engines are running.

The collection and draining systems for the possible carburant leaks, as well as the pumps tightness will be maintained in perfect condition of operation, so that to avoid the carburant spreading.

For the operation with the utilitarian installation, the preventing and extinction measures and rules will be observed, being forbidden to use them with damages or improvisations.

In the annex buildings of the fixed oil station (station cabin, commercial area etc.), the operation rules and measures established for the oil station will be observed. For the other auxiliary construction the preventing and extinction rules and measures for fires will be observed, stipulated in the general regulations, depending on the construction type, the fire risk, the categories of the fire danger and destination.

It is not permitted to distribute carburant during discharging of the auto cisterns, from the pumps where the loading is made.

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Marketing și securitate tehnică într-o stație de distribuție a carburanților cu risc de foc deschis

Rezumat

Marketing-ul este un concept relativ nou, iar adoptarea conceptelor de marketing de către o firmă este o schimbare. Acest proces al schimbărilor, și în speță al marketingului, trebuie prevăzut, coordonat, controlat, într-un cuvânt trebuie condus, ceea ce justifică clarificarea conceptului de management al marketingului. Principalele activități ale marilor concerne, constau în explorarea și producția de petrol și gaze, producerea de produse petroliere și petrochimice, precum și desfacerea acestora pe piața internă și internațională. Desfacerea către populație are loc prin terminalele (stațiile) de distribuție a carburanților (benzinării).