ANALYSIS OF THE OWNERSHIP COST IN THE CURRENT ECONOMICAL CONTEXT IN THE KNOWLEDGE-BASED ORGANIZATION

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ABSTRACT: The study done on the analysis of the ownership cost in the current economic context aims at being a practical guide that will be of help to the customers who want to take a decision regarding the purchase of a motor vehicle.

The strategy of the sale and motor vehicle service rendering organizations needs to insure the satisfaction of the customers, taking into account, of course, the product or the service rendered. Understanding the cultural differences, the differences between social classes is essential for obtaining success on any market because a wrong approach can generate the rise of a negative impact on the image of the product, producer and last but not least, of the organization.

Although it is believed that most customers are attracted through publicity, based on the research done it was shown that only 25% of the customers purchase goods or services based on a written advertisements, an advertisement heard on the radio or TV. Comparatively, 75% out of the customers intend to buy based on the recommendations offered by acquaintances (relatives, friends) thus cherishing the feedback of these people, based on their previous experiences. Starting from the data presented so far, one can easily observe that the recommendations made by customer with whom we interact consists a very important critical success factor for the organization.

Very rarely customers, after having bought a car, request data regarding after-sales costs related to the maintenance of the motor vehicles. It is very important that these costs are known before purchasing a vehicle because otherwise the level of customer satisfaction will be low, in many cases the costs becoming a real burden to the customer.

Key words: ownership cost, quality, indicators, satisfaction, services, maintenance, strategy.

1. INTRODUCTION

In order for the organizations to insure their leader position on their market segment first it is necessary for it to generate and maintain the satisfaction of the customers regarding the quality level related to the products and services offered to the customers. Purchasing a motor vehicle implies the price paid for the motor vehicle and important expenses destined for its maintenance.

The objective of the scientific research is to identify and to do a detailed analysis of the components that influence the global cost related to owning a motor vehicle.

The main depreciation factors for a motor vehicle are usually the image of the brand on the market, the exterior aspect, the motorization, the technical status, the number of kilometers, the maintenance of the motor vehicle in the manufacturer’s service shops and, last but not least, the release of a new version of that model. Also, the legislative factors, such as: the modification of the pollution taxes, the modification of local taxes and dues, the impact generated by the cassation programs, need to be taken into account.

The study presents an analysis of the ownership costs of a motor vehicle considering the actual cost of the product, the cost of using the product, the cost of working and maintaining the product, the cost of fuel, the influence of the pollution norms, the influence of the registration taxes. For example, according to the purpose for which the motor vehicle is purchased, the fuel consumption may or may not influence in a decisive manner the decision to buy. It is necessary to take into account the budget the customer has at his or hers disposal, the motivation he or she has for purchasing a motor vehicle belonging to a well defined class, the fact that not all customers know that they can turn to forms of financing which, even though imply certain interests, create for more customers the possibility to buy new motor vehicles.

A good salesperson, having listened carefully, will always manage to surprise his or hers customer with his couch-like attitude, in the end the customer being absolutely thrilled with his or hers purchase. Motivated only by the desire to sell a certain motor vehicle, using only cost and delivery deadlines related arguments, the salesperson can guide the customer into purchasing a motor vehicle the customer doesn’t actually need. This action will have devastating consequences on the customer’s level of satisfaction because, after a certain period of time, the customer will start to notice the fact that the new motor vehicle doesn’t manage to satisfy the reasons for which it was purchased in the first place.

2. THEORETICAL CONSIDERATIONS

The evolution of the car industry, especially in the segment of motor vehicle manufacturers, has known a downward trend as a result of the permanent modification of the market conditions. As a result of the financial situation generated by the aggravation of the economical crisis, the performance level related to the vehicle sales activity has had a
downward trend. In this context, the customers have turned toward the segment of new low-cost motor vehicles and toward the market segment related to second-hand motor vehicles.

Using the resources in an efficient manner together with the necessity to permanently optimize costs, have become more important to both the manufacturers and the customers, both segments being forced to adapt to the market trend.

All decisions have to be based on gathering and analyzing current information from the market, information that needs to be permanently analyzed in the context of market evolution forecasts. Starting from the analysis of the current situation preventive measures can be adopted in order to increase the level of … performance being based on the economic-financial criteria.

In order to manage the level of performance related to the service activity the monitoring of the following indicators is necessary:

In order to make the quality of the products operational, Garwin defines the following “quality dimensions”, which are relatively often referred to in the field:

- performance;
- features;
- dependability;
- conformance;
- durability;
- service ability;
- aesthetics;
- perceived quality.

In figure 1 one can find a suggestive representation of the inter-conditioning relations between the different characteristic categories of the quality of the products, representation which is called the tetrahedron of quality [17].

![Figure 1. The tetrahedron of quality](source: Titu, M. Dependability and maintenance, AGIR Publishing House, Bucharest, 2008.)

In Garwin’s opinion, in the evaluation of the quality of the products one can take into consideration any of these dimensions distinctively, as there are situations in which their inter-correlation is imposed, according to the aimed purpose.

According to other opinions the following categories of product quality characteristics can be defined: technical, aesthetics, economical, social and in use.

3. **RESEARCH METHODOLOGY**

Statistic research represents a process of knowing the mass phenomenons done with the help of the statistical methods, starting with the identification and the registration of individual cases, then going through their centralization and generation, to knowing the fundamental features of the statistic collectivity [5].

Applying on a large scale the mathematical methods and patterns in the investigation of the organizational processes constitutes an important factor in the organization’s development. The methodology represents a total of data gathering and analysis techniques selected according to their pertinence in relation to the object or problem to be studied. Quantity research is a systematic process, objective and precise, within which, in order to obtain information about a certain subject or about a certain topic, numerical data are used.
The scientific paper refers to the analysis of costs generated by the ownership of the motor vehicle from a concrete point of view, anchored in the context of the current economical crisis. Thus, the results can be generalized, the research being objective and deductive.

The objective of the scientific research is to analyse and present the specific components of the ownership cost with the purpose of contributing to establishing the criteria based on which the customers could easily decide to buy taking into consideration the proper management of their own budget and the satisfaction regarding the product purchased.

From the point of view of the methods used the scientific research was done by comparing the data made available by the motor vehicle manufacturers agencies, data found on the internet pages of these agencies as well, and by direct participative observation.

The values analyzed have been obtained through direct measurement, the emphasis of the study being put on the understanding of the basic notions related to the structure of the costs and on summarizing the information obtained after having analyzed them.

4. RESEARCH PRESENTATION

The motor vehicles sales activity is permanently influenced by internal and external factors, context in which it is necessary for the organization to use the results of the scientific research to train its staff regarding the transformation of these results in solid sales arguments based on the scientific knowledge.

The ProMotor publication has published the results of the dependability study: Vehicle Dependability Study 2011” done by the J.D. Power Company in North America. The motor vehicles of the owners who were questioned were manufactured and sold during 2008, meaning that the owners have had them for approximately 3 years.

According to the data presented in Figure 2, in relation to the manufacturers’ average of 151 problems for 100 motor vehicles only Mercedes-Benz manages to get a better position, with a score of 128, as opposed to the competitors Audi and BMW with 161 and 164 points.

One of the essential indicators that need to be carefully analyzed is the motor vehicle’s resale value. The German market research company Bähr & Fess and the Focus publication have finalized a study that shows which are the motor vehicle models that best conserve their resale value after a four year period. The results of this study are presented in Figure 3.
According to the data published in the Capital Magazine, the study done by Bähr & Fess shows that the highest depreciation of a motor vehicle occurs in the first year after the sell of the motor vehicle. Usually, in the first year of usage each vehicle loses in average approximately 24% of its value. In the next three years the average depreciation is of approximately 6 percentage points [25].

<table>
<thead>
<tr>
<th>Classe</th>
<th>Place</th>
<th>Model</th>
<th>Purchase price April 2011 (euro)</th>
<th>Residual value April 2015 (euro)</th>
<th>Residual value April 2015 (%)</th>
<th>Depreciation 2011-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Toyota IQ</td>
<td>13,550</td>
<td>7,076</td>
<td>51.9</td>
<td>48.06</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Ford Ka Ambiente 1.2</td>
<td>9,790</td>
<td>5,093</td>
<td>52.6</td>
<td>47.4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Toyota Aygo</td>
<td>6,895</td>
<td>4,675</td>
<td>53.8</td>
<td>34.15</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Audi A1 1.2 TFSI Attraction</td>
<td>16,680</td>
<td>6,927</td>
<td>56.6</td>
<td>49.37</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>VW Polo Tendencia 1.2</td>
<td>12,275</td>
<td>6,874</td>
<td>56.1</td>
<td>44.41</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Mini Cooi</td>
<td>15,550</td>
<td>9,203</td>
<td>59.2</td>
<td>38.86</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Audi A3 1.8 TFSI Sportback</td>
<td>26,295</td>
<td>13,873</td>
<td>53.0</td>
<td>47.22</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>VW Passat Variant 2.0 TDI</td>
<td>26,025</td>
<td>13,083</td>
<td>50.2</td>
<td>49.72</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Mercedes C200 CDI</td>
<td>36,500</td>
<td>20,020</td>
<td>54.4</td>
<td>39.88</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Mercedes CLS 350 CDI</td>
<td>63,427</td>
<td>34,251</td>
<td>54.0</td>
<td>29.17</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>Audi A7 FSI quattro</td>
<td>51,650</td>
<td>28,588</td>
<td>55.0</td>
<td>22.79</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>Audi Q7 3.0 TDI</td>
<td>38,500</td>
<td>20,020</td>
<td>51.4</td>
<td>38.62</td>
</tr>
</tbody>
</table>

![Figure 3. Analysis of the motor vehicle manufacturers according to the resale value of the motor vehicles](source: The CAPITAL Magazine, How much will new cars bought today cost in 4 years time, Bucharest, Romania (25.05.2011))

According to the data published by the Financiarul Magazine, the study done by the British Insurance Company Warranty Direct shows the list of the safest motor vehicles in the world. Over 50,000 intimations received from the customers of this company have been analyzed and the result of the research is presented in Table 1.

<table>
<thead>
<tr>
<th>Model</th>
<th>Safety value</th>
<th>Average repair cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota Corolla</td>
<td>4</td>
<td>241.97</td>
</tr>
<tr>
<td>Suzuki Alto</td>
<td>7</td>
<td>156.68</td>
</tr>
<tr>
<td>Honda HR-V</td>
<td>8</td>
<td>347.92</td>
</tr>
<tr>
<td>Ford Fiesta</td>
<td>14</td>
<td>180.93</td>
</tr>
<tr>
<td>Honda Jazz</td>
<td>16</td>
<td>317.75</td>
</tr>
<tr>
<td>Volvo S40</td>
<td>18</td>
<td>219.46</td>
</tr>
<tr>
<td>Mazda 2</td>
<td>20</td>
<td>186.51</td>
</tr>
<tr>
<td>Lexus IS</td>
<td>21</td>
<td>641.03</td>
</tr>
<tr>
<td>Mitsubishi Colt</td>
<td>21</td>
<td>515.85</td>
</tr>
<tr>
<td>Toyota Yaris</td>
<td>22</td>
<td>276.10</td>
</tr>
<tr>
<td>Peugeot 207</td>
<td>22</td>
<td>169.6</td>
</tr>
<tr>
<td>Mazda MX-5</td>
<td>24</td>
<td>418.52</td>
</tr>
<tr>
<td>Honda Civic</td>
<td>27</td>
<td>527.27</td>
</tr>
<tr>
<td>Nissan Primera</td>
<td>28</td>
<td>415.90</td>
</tr>
</tbody>
</table>
Each of the models registered in the chart is accompanied by a safety value, determined not only by the number of defects for 250 cars, but also by the cost of the repairs, by the average duration of the repairs, mileage and the average age. The lower the value is, the safest the motor vehicle is [27].

Analyzing the demands of the motor vehicle manufacturers in the current economical context, one of the essential differentiation elements of the motor vehicle manufacturers is their capacity to answer promptly to the changes of the market demands.

The demands of the customers permanently change in direct relation with the general technological progress, too. Even so, there are still several other demands that influence customers in their decision to buy, out of these we can mention: safety in usage, comfort and easiness (easy maneuverability), average fuel consumption, the low level of polluting emissions, size, autonomy (tank capacity, fuel consumption), the low level of noise, period of acceleration.

Before purchasing a motor vehicle the most common questions the customer expects answer to are the following:

- How much does the motor vehicle cost?
- How much does the usage of the motor vehicle cost?
- How much do the repairs cost (usually the question refers to usual repairs, such as: brakeage system, suspension system, running system, tires…)?
- Is it a dependable motor vehicle?

In most cases the decision to buy is taken by the customer after analyzing “the ownership cost”.

![Figure 4. Influence factors of the ownership cost](source: analysis of the research team)

The essential elements in the ownership cost related to the motor vehicle structure are presented in Figure 4.

In order to define the quality of the motor vehicle we must identify which are the characteristics that create it.

The basic main demands regarding the manufacturing of motor vehicles and the qualities necessary for any motor vehicle can be grouped in this manner [21]:

- insuring the safety of the circulation, of the confortness and the technical aesthetics of the motor vehicle;
- respecting and the constructive frameing in the internal and international regulations related to the motor vehicle manufacturing industry;
- the increase of the motor vehicle’s dependability and durability;
- the reduction of the transport time and the increase of the motor vehicle’s productivity;
- the reduction of polluting emissions;
- the reduction of production and exploitation expanses, the reduction of the fuel consumption, the reduction of the motor vehicle’s weight;

From the point of view of quality, the motor vehicle manufacturers need to insure:
the quality of the market evolution prediction;
the quality of the customer’s demands identification;
the quality of the motor vehicle’s designing;
the quality of the motor vehicle’s fabrication;
the quality of the motor vehicle’s sales;
the quality of the services offered after the sale of the motor vehicles;
the quality of the customer relation management;
Within the after sales departments, the in-territory representatives of the manufacturers (the car dealers) need to insure:

- the quality of the spare parts and the materials necessary for the repairs;
- the quality of the scheduling of the motor vehicles for service;
- the quality of spare parts and consumables supply;
- the quality of the motor vehicle reception;
- the quality of the service;
- the quality of the road checks (road checks are done only on the routes set out by the working instructions and only by persons specially designated for this purpose);
- the quality of the final quality checkup of the work done;
- the quality of the handing over of the motor vehicle;
- the quality of the payment process for the service;
- the quality of the feedback process;
- the quality of the management of the performance level of the service and spare parts sales activity;
- the quality of the management of the data base related to the customers (periodic contact with the customer, selective contacting of the customers who haven’t been in the service for over a year);
- the quality of the marketing activities and concepts;
The quality of the spare parts is influenced by the manufacturer’s policy and his opening regarding granting the license right to manufacture and commercialize spare parts outside the structures of the manufacturer’s dealers.

Demands specific to the car parts manufacturers:

- low price (low price level);
- quality;
- dependability;
- optimized stocks;
- short delivery periods (application of the Just in time concept);
- increasing the life of the spare parts;
- warranty conditions disregarding mileage

The general characteristics of the product can be classified according to several criteria:

1) based on the weight they have in satisfying the necessities of the user:
   a. technical-functional characteristics;
   b. economical characteristics;
   c. psycho-senzorial characteristics;
   d. ergonomic and user protection characteristics;
   e. ecological characteristics.

2) based on the weight they have in the process of establishing the quality of the products or services:
   a. main characteristics;
   b. secondary characteristics;
   c. minor characteristics.

3) based on the way of influencing the quality of the products or services:
   a. directly proportional characteristics;
   b. inversely proportional characteristics.

The main technical usage qualities of the motor vehicles are: the pulling qualities, the passing capacity, the stability, the manageability, the comfort, the economy, the dependability, the durability and the adaptability to technical maintenance and repairs.

The dependability is determined in the conception-design sector (estimated dependability), it is done in the fabrication sector (technical dependability) and it is maintained during the usage period through maintenance works (operational dependability). The dependability can be considered a measure of the conservation degree of the quality during usage; it is “an expression in time of the product’s quality”.

The economy characterizes the motor vehicle’s capability to transport, in a low fuel consumption regime, with minimal costs. The economy is determined by the constructive parameters of the motor and transmission, by the movement conditions and by the useful transported weight.

The economy is estimated with the help of some values that show the quantity of the fuel used for a 100 km or the quantity of fuel related to the transport activity unit (t x km). This quality has an important economical importance because the cost of the fuel has a major weight in the usage expanses.
The durability and the dependability. The durability characterizes the motor vehicle’s capability to function over a long period of time, without any failures, in the admitted wear limit. It is determined by the general construction, by the quality of the materials used, by the fabrication technology, by the quality of the installation and by the usage and maintenance manner.

The motor vehicle’s capacity to maintain its main parameters unchanged for a long period of time, in established limits, determines its dependability. The dependability represents one of the main quality indicators of the motor vehicle.

The adaptability to the technical maintenance and repairs, characterizes the simplicity, the rapidity and the easiness with which the technical maintenance repairs, the maintenance works and the current repairs are done. It depends on the accessibility insured by the manufacturer to the constructive elements, to the greasing areas, to the simplicity of the aggregate’s demounting and mounting, to the unification degree and the interchangeability of the motor vehicle’s parts and aggregates [21].

Approximately 5 years ago the motor vehicle manufacturer leaders were the three American groups: General Motors, Ford and Chrysler. In the economical crisis context the top positions were taken by the “German 3” group: Volkswagen, BMW and Daimler, companies that are permanently extending their influence zones from outside the European continent.

According to the Autofacts study, division of PricewaterhouseCoopers, published by Capital Magazine in 08.09.2011, the manufacturers mentioned in Figure 5 have a growth rhythm way above that of the competitors’.

In 2010, there were 16.3 million light motor vehicles (cars and commercial motor vehicles under 3.5 tones) being manufactured, out of which 5.4 millions were assembled in Germany. It is estimated that at the end of 2011 the cumulated production of the European manufacturers will surpass 17 million units, out of which 5.8 million motor vehicles will be manufactured by the manufacturers of the G3 group.

For the year 2015 it is estimated that in Germany there will be manufactured 6.1 million motor vehicles out of the total of 19.4 million motor vehicles that are going to be manufactured in Europe. For the year 2017 the European Union’s light motor vehicles production is estimated at 19.7 million units, out of which 6.4 million are going to be assembled by the “European car industry engine”, Germany [26].

![Figure 5. Evolution of the volume of the motor vehicles manufactured in the EU](image)

According to the Autofacts study, the European’s market weakness has pushed the G3 members to invest heavily in other areas on the Globe, too, especially Asia. As a consequence, out of the total of the motor vehicles manufactured last year under the Audi, SEAT, Skoda, Volkswagen, Bentley, Bugatti and Lamborghini (Volkswagen Group), BMW, Mini and Rolls-Royce (BMW Group), Mercedes-Benz, Smart and Maybach (Daimler Group) brands, approximately 40% were assembled outside Europe.

Estimates show an increase of the weight of the motor vehicles assembled outside the border of the EU. According to the predictions for 2017, the German group G3 will produce only 54% of its motor vehicles in Europe, the rest being assembled especially in Asia, North America, Russia and other geographical areas.

The Autofacts PwC rapport also shows that the investments made so far by Volkswagen, BMW and Daimler in the BRIC states (Brazil, Russia, India and China) are in the range of tens of billions. In China, VW has invested 10.6 billion euros, Daimler 3 billion euros and BMW 1 billion euros. In Brazil, VW has made investments of 2.3 billion and Daimler of 650 million euros [26].
5. RESEARCH RESULTS

The scientific research gives the fact that, from the point of view of the customer, the ownership costs can have the following structure:

1. the purchase cost
   1.1. the actual purchase cost (the actual buy price, credit rates);
   1.2. the additional purchase cost of the motor vehicle. Depending on the case, the purchase cost has in its structure the cost for: the drive to the showroom, the drive to another location in order to see the motor vehicle, the motor vehicle’s testing (road tests, fuel for the road tests in case the customer tests the car for a longer period of time), the drawing up of the leasing-rate file, the waiting period, the availability of the sales consultant, the taking possession of the motor vehicle from the headquarters of the sales person;

2. the usage cost
   2.1. the insurance cost (the RCA, the CASCO);
   2.2. the cost of the taxes and dues (pollution tax, registration, annual tax cost, the road tax) the cost of the periodical technical checkups. These costs are influenced by the cylindrical capacity of the engine, by the level of the polluting emissions, etc);
   2.3. the maintenance cost (the cost related to doing the inspections, the cost of the current repairs that are not covered by the warranty, the cost generated by the time necessary for making the interventions during the warranty, the cost generated by the drive to the service which is directly influenced by the level of representation of the manufacturers in the territory, the cost generated by the lack of the mobility services, etc);
   2.4. the cost generated by the fuel consumption (it is directly influenced by the traffic conditions and the driving manner);

3. the cost generated by maintaining the resale value of the motor vehicle. The cost will be calculated by summing up the cost for the internal and external cosmetic operations, the paint maintenance, work done quarterly. It can be considered that this cost also includes the value related to the 10 percentage points applied to the cost generated by the maintenance of the motor vehicle because the recommendation is to keep the motor vehicle within the manufacturer’s dealer’s services and not in other independent services where the price is generally with 10% lower.

In order to calculate the cost related to the fuel consumption the diesel fuel was estimated at 5.5 lei/liter. Also, the specific fuel consumption was calculated taking into consideration the maximum consumption given by the manufacturer for the urban environment traffic.

Taking into consideration the traffic conditions and the quality of the fuel, even though the manufacturers doesn’t suggest the replacement of all filters with every inspection, within this study the maintenance cost includes the replacement of the air, fuel and pollen filters with every inspection, with the exception of the first inspection.

Also, to have a maximal estimation of the maintenance costs we considered that the brake plates related to the front and rear axle are replaced at 60.000 km and by 100.000 km the disk plates related to the front and rear axle and the tires are replaced at least once.

In the previously described conditions, the estimated structure of the costs related to purchasing and owning, for a period of 5 years with a total maximum mileage of 100.000 km, of a Mercedes-Benz class C motor vehicle is presented in Table 2. Analyzing the data presented in Table 2, one can see that the weight of the actual purchase cost of the motor vehicle in the total of the costs estimated for a period of 5 years, with a total mileage of 100.000 km is of only 54%. The study shows the fact that the usage of the motor vehicle generates costs whose total weight is of 41% in the total of the costs, while the cost generated by the fuel consumption has a weight of 18%. Having at ones disposal these data, the customer can decide much easily if he or she is going to purchase a motor vehicle with diesel or gasoline engine. At the same time, he or she can see that not only the actual cost of the motor vehicle is the one that matters in the moment of deciding to buy, especially taking into consideration the fact that this cost can be evenly distributed by purchasing the motor vehicle in leasing.

The cost related to the maintenance of the motor vehicle over the analyzed period of time has a weight of only 8%, while the cost of the optional CASCO insurance has a weight of 9%. The total of the motor vehicle insurance costs in these conditions reach a weight of 11%, weight approximately 4 times bigger than the 3% weight related to the costs with taxes and dues.

The scientific research proves once more how important the complete evaluation of the costs prior to taking the decision to buy is and, at the same time, the importance of the role the sales consultant has in the moment in which he or she identifies the customer’s request.

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Table 2. Motor vehicle ownership costs structure

<table>
<thead>
<tr>
<th>The structure of the costs related to the purchase and ownership of the motor vehicle</th>
<th>Annual cost (RON with VAT included)</th>
<th>5 years total cost (EUR with VAT included)</th>
<th>Cost weight total cost of motor vehicle ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purchase cost</td>
<td>104958</td>
<td>24,990 €</td>
<td>54%</td>
</tr>
</tbody>
</table>
The structure of the costs related to the purchase and ownership of the motor vehicle

<table>
<thead>
<tr>
<th>Description</th>
<th>Annual cost (RON with VAT included)</th>
<th>5 years total cost (EUR with VAT included)</th>
<th>Cost weight total cost of motor vehicle ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1. Actual purchase cost (motor vehicle price)</td>
<td>104958</td>
<td>24,990 €</td>
<td>54%</td>
</tr>
<tr>
<td>1.2. The additional cost of the motor vehicle purchase</td>
<td>0</td>
<td>0 €</td>
<td>0%</td>
</tr>
<tr>
<td>2. Motor vehicle usage cost</td>
<td>14055</td>
<td>18,918 €</td>
<td>41%</td>
</tr>
<tr>
<td>2.1. Insurance cost</td>
<td>4424</td>
<td>5,267 €</td>
<td>11%</td>
</tr>
<tr>
<td>2.1.1. RCA (mandatory) insurance cost</td>
<td>974</td>
<td>1,160 €</td>
<td>3%</td>
</tr>
<tr>
<td>2.1.2. CASCO insurance cost</td>
<td>3450</td>
<td>4,107 €</td>
<td>9%</td>
</tr>
<tr>
<td>2.2. Taxes cost</td>
<td>2591</td>
<td>1,533 €</td>
<td>3%</td>
</tr>
<tr>
<td>2.2.1. Registration tax (polition tax, registration tax)</td>
<td>1629</td>
<td>388 €</td>
<td>1%</td>
</tr>
<tr>
<td>2.2.2. Annual tax cost</td>
<td>792</td>
<td>943 €</td>
<td>2%</td>
</tr>
<tr>
<td>2.2.3. Road tax cost (rovinette)</td>
<td>120</td>
<td>143 €</td>
<td>0%</td>
</tr>
<tr>
<td>2.2.4. ITP (Periodic Technical Inspection) cost (done every 2 years)</td>
<td>50</td>
<td>60 €</td>
<td>0%</td>
</tr>
<tr>
<td>2.3. Maintenance cost (including brake plates, brake disks, tire change)</td>
<td></td>
<td>3,737 €</td>
<td>8%</td>
</tr>
<tr>
<td>2.4. Cost of fuel consumption for a period of 5 years</td>
<td>7040</td>
<td>8,381 €</td>
<td>18%</td>
</tr>
<tr>
<td>3. Cost generated for keeping the re-sale value of the motor vehicle – value estimated for 100 € quarterly</td>
<td>1680</td>
<td>2,000 €</td>
<td>4%</td>
</tr>
<tr>
<td>Total cost of motor vehicle ownership for a period of 5 years</td>
<td>120693</td>
<td>45,908 €</td>
<td>100%</td>
</tr>
</tbody>
</table>

According to the data published in the Capital Magazine, a study done by the auto.ro portal and Daedalus Millward Brown shows that most of the Romanian drivers’ prefer the independent service shops as opposed to those authorized by the importers (the car dealers). However, the inclination toward one or the other types of service units depends heavily on the age of the motor vehicle owned.

The rapport shows that the Romanian motor vehicle owners who go to the brand dealer’s services are more satisfied with their work even though the independent service shops are more appealing because of their prices. One of the conclusions of those who made the study is that “relating the total satisfaction to that of the service, one can see that 71% of the satisfaction toward the service is found in the level of the brand satisfaction”.

According to the mentioned study, most of the Romanians appreciate better the kindness of the service’s staff than the quality of the work done, while the price is only the fifth criterion, after the meeting of deadlines and the efficiency of solving the problem. These data show that the car service shops have improved a lot their customer’s relation segment, but they still have some work to do regarding insuring a price that will please the Romanians [24].

6. CONCLUSIONS

The organization’s strategy needs to insure the customer’s satisfaction and it shouldn’t focus on the product or the service offered. Understanding the national and local cultural differences is essential for obtaining success on any market because a wrong approach can generate a negative impact on the organization’s image [8]. An organization orientated toward customers is able to foresee their future behaviors and, as a result, to better satisfy their needs and expectations.

When the sales consultant recommends to a customer the purchase of a certain motor vehicle, he or she has to correctly identify before hand the customer’s demands, real necessities. Otherwise the sales consultant is going to sale a product that the customer initially asked for but which will not fulfill the customer’s demands and expectations. The result will be the generation of the customer’s dissatisfaction in relation to the purchased product, the motor vehicle’s manufacturer, the company that delivered the motor vehicle and implicitly, the sales consultant.

By putting at the disposal of the customers the loyalty programs which will make them feel special, important, systems that will surprise the customers in a nice manner and, at the same, that will allow the insurance of a correct resale value of the motor vehicle after a period of time agreed upon from the beginning with the customer, the organization will manage to have satisfied customers, customers loyal to the organization who will happily come back.

Based on the market studies it has been shown that the purchase price is not in all cases the best evaluation criterion in the decision to purchase a motor vehicle. For example, the low fuel consumption and the high resale value of the motor vehicle contribute significantly to the reduction of the total ownership cost. Some examples are given by the Logan and Sandero models that, although having some of the lowest purchase prices in Europe still manage to generate ownership costs higher than the cars that have much higher selling prices. One of the main reasons that generate these costs is their equipment with older generation engines that use more fuel [22].
All of the actions of the service rendering organization’s employees matter for the customer [14], which is why it is extremely important that when we interact with our customers the availability and the empathy of the organization’s members should be at a maximum level.

The concern toward the customers of an organization is a concept that implies the unfolding of some specific actions through which the customers are always satisfied, making them loyal customers who come back periodically with new demands. The customer’s satisfaction has priority and it conditions the existence of the sales person, with focus on quality and on offering superior quality services. Within knowledge based organizations, the continuous identification of the demands of the customers in relation to the quality characteristics of the motor vehicle needs to be permanently in the management’s attention.

Based on the study done, it has been seen that from the point of view of the motor vehicle’s quality characteristics, the customers are willing to purchase:

- economy;
- easiness in usage;
- dependability;
- flexibility;
- comfort;
- permanent technical assistance in any geographical coverage area;
- the availability of the support staff;
- insuring the mobility in case the motor vehicle found in the possession of the customer is immobilized;
- contribution to the personal image;

As it is mentioned in the field, “the expectations of the customers in relation to those who render services are clear. The customers want for the services to look good, to be responsible, to inspire safety, to be emphatically and above all – to be trustworthy”. The consumers want the companies to do what they said they would do [14].

In the modern conception, analyzing the quality characteristics of the motor vehicle, we can assert the global quality perceived by the customer under the form of the followine indicators:

- the delivery period of the new motor vehicle;
- the period of immobilization in the service;
- the number of service entries and comebacks;
- the number of claims/complaints.

During the presentation of the products and services we have to manage to make valuable affirmations through which to convey to the customer what are the “BENEFITS” that the customer will receive by purchasing the product or the service offered by the organization.

Customers want to buy each time an integrated package of products and services that will completely satisfy their demands. At the same time, customers want to transfer the responsibility of managing the usage of the purchased product or service to the sales person or the service rendering entity. Out of 10 customers, maximum 2 are determined to buy a certain product or service.

The target of the service rendering organizations in the car industry has to be that of having customers pleased with the products and services offered, and not just have satisfied customers and, in order to reach this goal they have to work together, starting with the car components supplier to the service that insures the maintenance of the product-motor vehicle during the entire period of usage.

The manufacturers need to be extra careful to the feedback received from the market in order to be able to reposition itself in regard to the maintenance costs, especially taking into consideration the fact that from the point of view of the customer, being aware of the ownership costs can lead to the change of the initial choice of purchasing a motor vehicle. Also, the motor vehicle manufacturers need to focus their efforts into reducing to a minimum the ownership costs and at the same time to set their selves aside from the competition, for example through the quality of the after sales services, too.

A way of differentiation is represented by the after-sales mobility and the 24/24 traffic assistance services, services offered for free by the Mercedes-Benz manufacturer.

In order to develop this study, the research will extend next on several motor vehicle brands, with similar motorization and with the same fabrication year. The impact generated by the ownership cost on the customer from the point of view of the products and services consumption, but also from the point of view of customer satisfaction will be analyzed.

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