MODELING THE DECISION TO SC PROFIL SRL

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Abstract   *The article titled "MODELING THE DECISION TO SC PROFILL SRL" was made on the basis of research within the organization. In the first part we studied the Swot analysis of the organization, after which we focused on the decisions that can be taken within the company. These decisions were taken in certainty, uncertainty and risk conditions, and each decision was implemented and studied under the conditions imposed by the firm.*

1. INTRODUCTION

The trading company began its activity in the spring of 1995 and is the domain of activity of distribution of materials and components of thermopan glass, assembling and consulting organs. The main suppliers are the wholesale companies in Bucharest, Constanta, Timisoara.

They are based on the nature of the products they sell a greater or lesser quantity over a given period of time.

Clients with whom the company collaborates are classified according to the following criteria:

- seniority and seriousness of collaboration

- the weight it occupies in the market

- the nature of the companies (state or private)

The company has experienced a steady development over time as the patron understands about the market economy mechanism that operates on the basis of the supply and demand law, having as central axis, price and product quality.

The company carries out expenses on promotional actions. All products that supply them as promotional products sell them as such.

Every promotional merchandise is exposed and advertised to customers. The staff is trained to inform customers about the benefits and content of promotional merchandise, and to provide any kind of relationships about them.

2. THE SWOT ANALYSIS

Analyzing the activity carried out at Profil Com SRL, we can note a number of strong points:

- The available merchandise
- customer service schedule
- favorable price-quality ratio
- efficient management

The company supplies quality goods from the wholesale commercial units in Bucharest or other localities: Constanta, Timisoara, Braşov, and supplies directly to the headquarters of the commercial premises from the supplying companies through their sales agents.

Managers' attention is always the quality of commodity prices, commodity variation - to better meet the needs of all consumer categories. It has the power to buy customers as well as to attract them through the price level of products to comparable qualities.
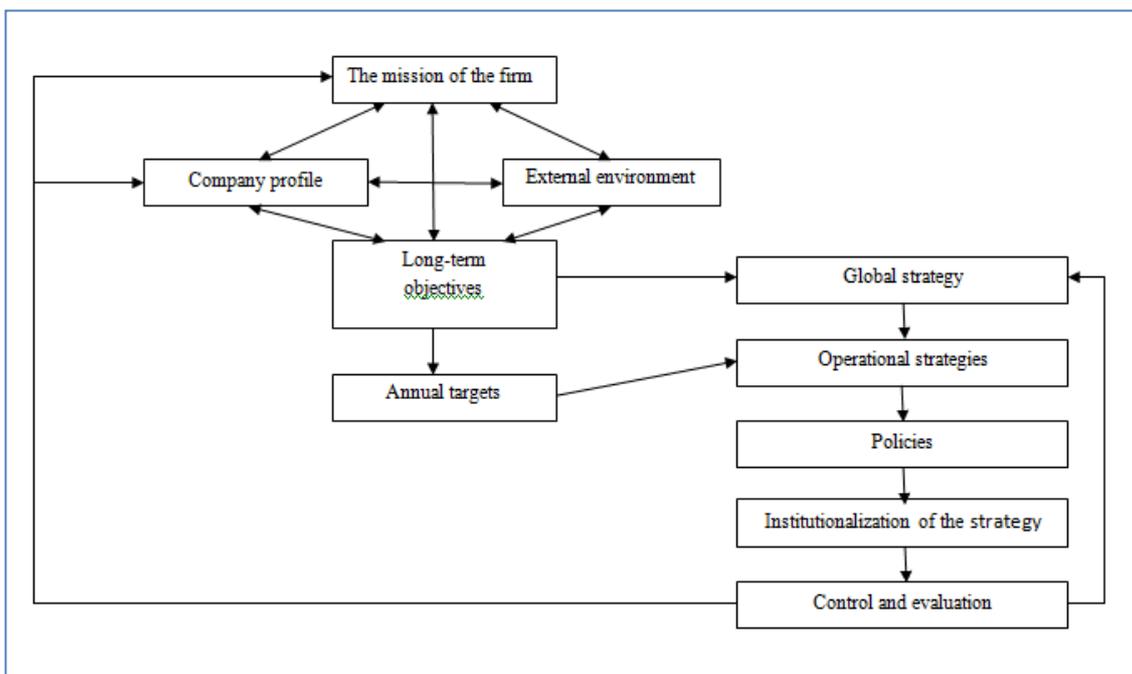

Figure 1 - The mission of the firm

3. COMPANY LEVEL DECISIONS IN CERTIFICATION CONDITIONS

The decision defines the processes that change the nature and content of the system's resources, contributing to changing the objective system of needs and pursuing the achievement of its economic and social optimum.

The decision under certainty is characterized by the fact that each alternative leads to the same specific result; only one future event is possible and it will happen with an associated probability of 100%.

Next, I want to run a study on the company, that is, it is going to be supplied with materials from different suppliers in different localities. The cost of transport on different routes between Profil Company and the sources of supply is shown in the figure below.
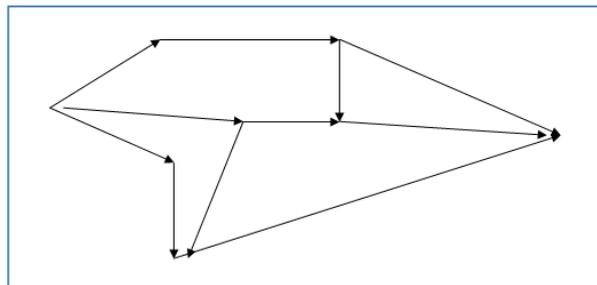
	D1	D2	D3	D4	D5	D6	D7	Profil Com
D1	0	1	4	3	∞	∞	∞	∞
D2	∞	0	∞	∞	∞	∞	∞	∞
D3	∞	∞	0	∞	5	∞	∞	∞
D4	∞	∞	∞	0	3	∞	2	∞
D5	∞	∞	∞	∞	0	∞	∞	6
D6	∞	∞	∞	∞	∞	0	2	3
D7	∞	∞	∞	∞	∞	∞	0	4
Profil Profile Com	∞	∞	∞	∞	∞	∞	∞	0
Vi o	∞	∞	∞	∞	6	3	4	0
Vi 1	∞	∞	11	6	6	3	4	0
Vi 2	9	∞	11	6	6	3	4	0
Vi 3	9	∞	11	6	6	3	4	0

The optimal transport routes from each warehouse to the Com Company profile are:

D1 = 9 (D1, D4, Profile Com)

D3 = 11 (D3, D5, Profile Com)

D4 = 6 (D4, D7, Profile Com)

D5 = 6 (D5, Profile Com)

D6 = 3 (D6, Profile Com)

D7 = 4 (D7, Profile Com)

4. BUSINESS LEVEL DECISIONS IN RISK CONDITIONS

The risk designates that state of knowledge in which each decision variant leads to one of the known results from a multitude of dates, each result being able to occur with a known objectively known probability by the decision-maker. Potential losses, their size associated with risk situations and the adoption of solutions to problem solving should be identified.

The risks that a company may face are:

- simple survival of the firm;

- low cost with risk management and thus obtaining of high profits;

- obtaining stable earnings;

- short-term interruptions or absence of interruptions in activity
company;

- continuous growth;

- the company's satisfaction with its social responsibilities and responsibilities
its good image.

In the following case, the company wants to offer its promotional packages to its clients.The final analysis for the winners of the three promotional packages was based on well-established criteria, such as: (last year's sale, the speed of payments for the purchased goods, the length of the collaboration). The table below shows the transport variants that the agency they can use: CFR messaging, postal services, DHL express delivery, the likelihood that promotional packs will be safe and timely, as well as revenue that involves transport.

	$P_1 = 0.5$	$P_2 = 0.1$	$P_3 = 0.4$
	Client 1	Client 2	Client 3
V1= messaging CFR	15000	22000	35000
V2 = postal services	20000	30000	40000
V3=fast courier DHL	50000	35000	40000

1.The average profit criterion

$M(V1)=0.5*15000+0.1*22000+0.4*35000=23700$

$M(V_2)=0.5*20000+0.1*30000+0.4*40000=29000$

$M(V_3)=0.5*50000+0.1*35000+0.4*40000=44500$

2.The maximum probability criterion

max (23700;29000;44500)= 44500 = M(V3)

max $_{PJ}$ = max (0.5; 0.1; 0.4) = 0.5

The optimal variant is V3 = 50000.

According to this criterion, the most profitable variant is V3 (DHL Express Courier), which corresponds to the highest revenue with the highest probability of realization.

5. ADOPTION OF THE COMPANY LEVEL DECISION IN INCERTITUDE CONDITIONS

Decisions in uncertainty are those decisions that are adopted in the circumstances in which each alternate can lead to more results because several future events are possible and the probabilities associated with each event are unknown.

Uncertainty defines the state in which one or more decisional alternatives result in a lot of data, the results of which are unknown or impossible to estimate objectively.

There are two main decision-making methods under uncertainty:

a) the decision maker may use the best available information and own experience and judgment for:

- identification and association of subjective probabilities for the states possible nature;

- Expanding the consequences for each strategy available in each state of nature;

b) if the degree of uncertainty is so great that the decision maker prefer not to make assumptions about the probabilities of different states of nature, he can either neglect the probabilities, or he can consider them equal (equivocal).

Under uncertainty, managers can make their decisions by one of the following rules:

- the rule of prudence (Abraham Wald)

- optimist rule (Leonid Hurwicz)

- balance rule (Bayes-Laplace)

- rule of regrets (Leonard-Savage)

The company wants to buy a van for minimum transport costs and a bigger volume to transport the cargo, we will analyze 2 cases (first with a credit from banks, and the second with a financial leasing).

In the latest analysis, the company asks some commercial banks for a loan in order to finance the purchase of a WV branded van.In this respect, the general manager studies three decisional variants, taking into account the interest rates imposed by the banks (large, medium, small). The size of the guarantees required by the three banks are listed in the following table:

The Bank		Big Interest N1	Interest Rate Medium N2	Little Interest N3
BCR	V1	7	13	15
Banc Post	V2	13	11	14
BNR		12	12	16

The optimistic probability is 0.6 and the pessimistic probability is 0.4.

A. Regulation of Prudence

$V_p = \max(\min U_{ij})$

$V_p = (7,11,12) = 12$ (V3)

$V_{sp} = \min(\min U_{ij})$

$V_{sp} = 7$(V1)

B. Optimista rule

$V_{opt} = \max[(\max U_{ij})*P_{opt} + (\min U_{ij})*P_{pes}]$

$V1 = \max(15*0.6+7*0.4) = 11.8$

$V2 = \max(14*0.6+11*0.4) = 12.8$

$V3 = \max(16*.6+12*0.4) = 14.4$

$V_{opt} = 14.$(V3)

According to optimistic criteria, bank 3 (BNR) offers the most advantageous credit for the company.

$V_{so} = \max(\max U_{ij})$

$V_{so} = \max(15,14,16) = 16$(V3)

C. Regulating the balance

$V_e = \max(1/n \sum U_{ij})$

$V1 = 1/3 (7+13+15) = 35/3 = 11.66$

$V2 = 1/3 (13+11+14) = 38/3 = 12.66$

$V3 = 1/3 (12+12+16) = 40/3 = 13.33$

$V_e = \max(11.66,12.66,13.33) = 13.33$(V3)

D. Regulating regrets

$V_r = \min(\max U_{ij})$

$r_{ij} = \max(U_{ij}) - U_{ij}$

	N1	N2	N3
V1	6	0	1
V2	0	2	2
V3	1	1	0

Vr =min (6,2,1) = 1(V3)

According to the applied rules, BNR bank represents the most advantageous offer.

6. CONCLUSIONS:

As a result of the research carried out within the company on the modeling of the decision we reached the following conclusions. The first conclusion concerns the company's Swot analysis, which indicates that the manager's attention is always on the quality of the goods. The second conclusion regarding the certainty of the decisions, we found that the optimal route is in node D3. The third conclusion regarding the risk decision we have: the maximum profit criterion is 44500 and the maximum probability criterion is 50000 (fast DHL courier). Fourth conclusion regarding the adoption of the decision under uncertain conditions, the NBR bank represents the most advantageous offer.

7. BIBLIOGRAPHY:

1) Constantin, C. – Sisteme informatice de marketing. Analiza si prelucrarea datelor de marketing. Aplicatii practice în SPSS. Ed. Infomarket, Brasov, 2006;

2) Malhotra, N. – Marketing Research. An applied orientation. Editia a 4-a, Ed. Pearson Education International, New Jersey, 2004;

3) Popescu, I. C. – Metode calitative utilizate în cercetările de marketing. Ed. ASE, Bucuresti, 2000;

4) Zikmund, W. – Exploring Marketing Research. Ed. 5-a. Ed. The Dryden Press - Harcourt Brace College Publishers, 1994.