STRATEGIC PLANNING IN UNCONVENTIONAL TECHNOLOGIES FIELD

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ABSTRACT
The creative industrial organization that produces or uses unconventional technologies has as main purpose to achieve its mission, that is “making money”, by satisfying their clients requests and by resistance against competition, in the conditions of integration of Romania in the European Union.

At the global level, unconventional technologies are having a great expanding. European Union requests impose developing this field in all countries with great accent on developing the small and medium sized enterprises. According to current reality of environment evolution, modern managerial concept in the framework of passing to the knowledge based economy where the field of unconventional technologies is found, imposes approaching a new strategic planning in achieving the objectives.

KEYWORDS: management, strategy, planning, molding, resources

1. GENERALITIES
Same as in any field of activity, doing the leading process in unconventional technologies - U.T., presumes fulfilling certain specific activities grouped in the following managerial functions: planning function, organizing function, leading function and control.

Planning as base management function represents a process that starts with organization’s mission and includes objectives, display framework, plans developing in time, and as well the connection between them.

The main result of planning function is accomplishing the strategic introductive plan, maintaining and developing in the actual market of the U.T. products, created especially by small and medium sized enterprises that have manifested preoccupations in this field.

Thus it can be underlined the importance of strategic planning especially for small and medium sized enterprises in the upcoming integration in European market, with very likely changes of economical environment, competitors’ actions, clients’ demands and behavior.

2. MODERN ASPECTS OF STRATEGIC PLANNING IN INTRAPRENEURIAL APPROACH OF THE U.T. FIELD

Modern strategic planning in intrapreneurial developing at the direct action level of the organization comprises the following main aspects:

• Defining firm’s mission, attained by:
  - his history; present preferences of the owners and of the administration;
  - market juncture; organization’s resources; firm’s capability in the field.

Organizations are making statements over their mission, and they transmit them both to administration and employees, and customers and other public organizations. Declaring the mission must represent the firm’s policy over the clients, distributors, competitors and other representatives groups. The firm’s mission should be revised according to economical changes.

• Defining the fields of strategic activity (F.S.A) and of strategic business units (S.B.U.)

Stating the strategic vision and passing to defining the base strategic objectives for adopting some strategic decisions requires
analyzing different possibilities of developing relations with the market. Thus, industrial organizations that are strong or are willing to become strong on the market, seek to harmonize their future managerial vision based on stability and financial answer with future managerial thinking, based on F.S.A. strategic fields of activity. The result is creation of some small and medium sized satellite enterprises (Fig. 1), with mobile and focused action in the areas of research, production, services, marketing. In their return, those small and medium sized satellite enterprises will be capable of creating strategic business units S.B.U., as a way to manifest the interests of the “mother” firm, but also as their own manifestation in the market.

S.B.U. represents the base activity domains of the “mother” firm, having a stable answer on the market and bringing the main and constant incomes.

S.B.U. - fields of strategic activities of the “mother” firm, representing strategic material thinking in the field of classical production technologies, but also in the field of new technologies of the U.T. type.

- Establishing F.S.A. position on the market

This is done by applying the PORTOFOLIO matrix:

a. for each sub criteria marks must be given on a scale from 1 to 5. the weighted average is done (using some importance coefficient)

b. the position of different S.B.U. in a matrix (Fig. 2) where different fields (A... G) correspond to a weighting like:

- A: very interesting domain
- B, C: maintainable and worth developing domains, but with caution
- E, F, G: domains where retreat or abandon is the most recommendable
- H, D, I: these domains must be treated differently, based on profound analyses (fields situated on the risk diagonal)

- Resource allocation for each F.S.A.

The purpose of identifying the appropriate F.S.A. for the firm, consists in establishing the strategic objectives for each unit and allocating the needed funds in the following steps:

1. F.S.A. forwards their own projects to the firm’s management, that approves or returns them for further revision;
2. the management clarifies activities function of profit potential;
3. the management analyzes these projects and decides which F.S.A. will be extended, kept at the current level or eliminated.

The model BCG (Boston Consulting Group) it will be used for evaluating the business portfolio, presented in Fig. 2. This method will group the activity of the existing products (F.S.A. in our case), in the portfolio of a firm in four categories, taking into account two criteria:

- market growth rate of the product;
- relative market share segment, detained by the firm
The threshold for differentiating the two criteria is considered to have the following values:

- 10% for market growth rate (makes the difference between a fast growing market and a slow growing one, stagnation, dropping)
- 1,00 for relative market share (makes difference between F.S.A. products where the firm occupies the leader position and non-leader)

The characteristics of the firm framed by the two categories presented in Fig. 3, are:

a. **Cash Cows** - F.S.A. that represents certain values of the producing firm that are bringing profit, and it can finance the other activities produced in other categories

b. **Stars** - they are F.S.A. that contributes to turnover growth and to improve the image on the market, the “star” becoming the leader of a fast growing market

c. **Question Marks** - there are products whose market knows a quick growth, but where the producing firm might not win the market supremacy

d. **Dogs** - F.S.A. don’t bring any high profit, and do not contribute in a great degree to firm’s development (small market share and small growth rate); the firm is obliged to eliminate these products from its activities portfolio (unless no other strategic reason is used)

**Fig. 3. Applying B.C.G. model in positioning F.S.A.**

- **Positioning the existent S.B.U. in the market, within the satellite firm** (small and medium sized enterprises)

  The purpose for S.B.U. positioning in the market of the satellite firm in the U.T. field, consists in establishing the strategic objectives for each one, and allocating the necessary funds.

  The following stages are completed:

- S.B.U. forwards its own projects to the upper management of the satellite firm for approval
- The top management analyzes the business projects and decide which ones will be kept at the current level, eliminated or applied;
- The top management will arrange the possible business function of profit potential;

  **In the first stage** for instance, the problem is to establish and scale the objectives S.B.U. in a satellite firm (small and medium sized), that produces in the U.T. field, given the following data for initiating the analysis (Table 1)
In the second stage, the top management decides which is the most adequate S.B.U., and makes a hierarchy.
This is done by using the General Electric Model, where each S.B.U. is evaluated taking into account two major criteria:

- market attractiveness
- competitive potential

If one of the factors misses, the business is dropped.
Each firm will create a personal set of factors corresponding to each criteria, like the ones presented in Table 2.
For evaluating each S.B.U. (presented in Table 2), each factor is given a mark on a scale, depending on the market share.
These marks are multiplied with the share that reflects relative importance of each factor, resulting the values summed for each S.B.U. (as shown in Fig. 4):

For instance, for S.B.U.1 (Table 1) the values obtained are presented in Table 2.

### Table 1.

<table>
<thead>
<tr>
<th>S.B.U.</th>
<th>Turnover of the analyzed firm (mil. RON)</th>
<th>Turnover for the strongest competitor</th>
<th>Relative market share (%)</th>
<th>Annual market growth rate (%)</th>
<th>Share from total turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.B.U.1 - Installations by electro-erosion</td>
<td>6.0</td>
<td>7.0</td>
<td>0.86</td>
<td>7</td>
<td>46.3</td>
</tr>
<tr>
<td>S.B.U.2 - Electrode tool</td>
<td>1.4</td>
<td>2.0</td>
<td>0.7</td>
<td>4</td>
<td>11.6</td>
</tr>
<tr>
<td>S.B.U.3 - Ultrasonic concentrators</td>
<td>0.7</td>
<td>1.5</td>
<td>0.48</td>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>S.B.U.4 - Ultrasonic generators</td>
<td>3.0</td>
<td>4.5</td>
<td>0.97</td>
<td>12</td>
<td>25.2</td>
</tr>
<tr>
<td>S.B.U.5 - Specialized equipments</td>
<td>1.8</td>
<td>7.8</td>
<td>0.23</td>
<td>16</td>
<td>13.9</td>
</tr>
</tbody>
</table>

### Table 2. Specific factors for the criteria

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Factors “i”=[1,...M]</th>
<th>Importance [%]</th>
<th>Mark</th>
<th>Result [1x2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market share</td>
<td>0.30</td>
<td>4</td>
<td>1.20</td>
</tr>
<tr>
<td>2</td>
<td>Market annual growth rate</td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
</tr>
<tr>
<td>3</td>
<td>Market bound previous established</td>
<td>0.15</td>
<td>3</td>
<td>0.45</td>
</tr>
<tr>
<td>4</td>
<td>Competitors strength</td>
<td>0.20</td>
<td>5</td>
<td>1.00</td>
</tr>
<tr>
<td>5</td>
<td>Technological requests</td>
<td>0.10</td>
<td>5</td>
<td>0.50</td>
</tr>
<tr>
<td>6</td>
<td>Energetic requests</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>7</td>
<td>Environment impact</td>
<td>0.08</td>
<td>3</td>
<td>0.24</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

**B. Competitive potential - S.B.U.1**

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Factors “i”=[1,...M]</th>
<th>Importance [%]</th>
<th>Mark</th>
<th>Result [1x2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Market segment</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>2</td>
<td>Developing segment</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>3</td>
<td>Product quality</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>4</td>
<td>Distribution network</td>
<td>0.20</td>
<td>5</td>
<td>1.00</td>
</tr>
<tr>
<td>5</td>
<td>Promotion</td>
<td>0.01</td>
<td>4</td>
<td>0.04</td>
</tr>
<tr>
<td>6</td>
<td>Production capacity</td>
<td>0.10</td>
<td>3</td>
<td>0.30</td>
</tr>
<tr>
<td>7</td>
<td>Production efficiency</td>
<td>0.05</td>
<td>5</td>
<td>0.25</td>
</tr>
<tr>
<td>8</td>
<td>Material resources</td>
<td>0.05</td>
<td>4</td>
<td>0.20</td>
</tr>
<tr>
<td>9</td>
<td>R&amp;D capacity</td>
<td>0.05</td>
<td>4</td>
<td>0.20</td>
</tr>
<tr>
<td>10</td>
<td>Management staff</td>
<td>0.10</td>
<td>5</td>
<td>0.50</td>
</tr>
<tr>
<td>11</td>
<td>Information about competitors</td>
<td>0.14</td>
<td>5</td>
<td>0.74</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>1</td>
<td>4.03</td>
</tr>
</tbody>
</table>

After analysis there have been obtained the results for all the S.B.U., presented in Table 3.

### Table 3. Results estimated for each S.B.U

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market attractiveness results</td>
<td>4</td>
<td>1.8</td>
<td>2.1</td>
<td>2.6</td>
<td>4</td>
</tr>
<tr>
<td>Competitive potential results</td>
<td>4.03</td>
<td>3.3</td>
<td>2.2</td>
<td>3.2</td>
<td>1.4</td>
</tr>
</tbody>
</table>

In the third stage, market positioning of the obtained results will be made under the matrix presented in Fig. 5, representing the multi factorial matrix (Mc Kinsey).
The matrix underlines which S.B.U. is worth investing in, which are good but need selective developing, and which should not be kept any longer, taking into account the two important criteria: market attractiveness and competitive potential.
The areas in Figure 5 are highlighted different, for easy comprehension, and contains as well the forecasted vectors of development.
3. CONCLUSIONS

Future strategies for F.S.A. (“mother” firm) and S.B.U. (satellite firm) in the U.T. field. Strategic planning permits the enterprise to establish future strategies in direction of raising the turnover and optimal profit estimated to be obtained from the production and selling of the U.T. products.

There are three possibilities to take managerial action, thus:

- **Possibility 1** - intensive developing for present activities, according to ANSOFF model (product-market matrix, presented in fig. 6) for small and medium sized enterprises, comprises the following possible strategies:
  - **Strategy 1**: the top management analyses first the possibility of winning a bigger market share with current F.S.A. and S.B.U. products;
  - **Strategy 2**: first is analyzed the possibility to win new markets for current F.S.A. and S.B.U.;
  - **Strategy 3**: at the end, it is being analyzed the possibility to create new F.S.A. and S.B.U. for the existent markets;
  - **Strategy 4**: there will be analyzed as well the possibilities to create new F.S.A. and S.B.U. also for new markets;

- **Possibility 2** - developing by integration

This can be on the upstream, downstream, on the horizontal in the U.T. activity field (acquiring of providers, distributors, wholesale dealers, retailers), especially for large firms with great capital.

- **Possibility 3** - developing by diversity strategy

This strategy is recommended when there are being identified new possibilities of extending the business in other connected fields (nanotechnologies).
Therefore the top management should take into consideration the following serious issues:

- Analyzing the life cycle in which every F.S.A. and S.B.U. is located in the U.T. field;
- Possible strategies of the main competitors;
- Allocating the limited resources;
- Establishing the proper politic and strategy in the human resources are etc.

Establishing the managerial strategy for maintaining, developing or eliminating F.S.A. or S.B.U. in the unconventional technologies field, constitutes the binding support for allocating the necessary human resources, material resources and financial resources. This is the practically the main issue for each firm with preoccupations in this field of activity.

REFERENCES


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