

Strategic thinking in the management of agribusiness companies

Strategické myšlení v řízení podniků agribusinessu

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Abstract: This scientific paper shows the partial results of the research project GAČR 402/05/2697, focussing on the analysis of a questionnaire survey and the creation of strategic thinking models of decision making. The partial analysis of the questionnaire survey results was used for designing the basic structure of the required dependencies in the form of a decision tree. On the basis of the tree, requirements for designing the system of strategic thinking models were deduced. These requirements are reflected in the functional model, the data model and in the status diagram. These models will present an instrument suitable for supporting strategic decision making.

Key words: strategic thinking, strategic management, strategies, models of strategic thinking, competitive advantage

Abstrakt: V příspěvku jsou uvedeny průběžné výsledky z grantového projektu GAČR 402/05/2697 s důrazem na návrh metodického modelu, který vytváří základní rámec úspěšného procesu strategického rozhodování. Na základě dotazníkového šetření s následnou analýzou byly potvrzeny předpoklady a získány nové poznatky pro navržení základní struktury požadovaných návazností v podobě rozhodovacího stromu. Tyto požadavky jsou ztělesněny ve funkčním a datovém modelu včetně stavového diagramu, který byl následně využit pro tvorbu obecného metodického modelu strategického myšlení a prototypů webové aplikace.

Klíčová slova: strategické myšlení, strategické řízení, strategie, model strategického myšlení, konkurenční výhoda

One of the substantial problems of strategic management is to understand the principles of strategic thinking and its purpose for the creation of strategies. Even though a high measure of attention has been paid to strategic thinking in technical literature, some issues did not find an unambiguous answer. This especially refers to the purpose of strategic thinking in relation to other critical success factors of a strategic decision and the practical usability of available knowledge in the field of management decisions. Due to the harder fight for costumers and while observing, why some companies are more successful than others, this question has become more important in the last years.

There are many varying and unclear perceptions of the term "strategic thinking". Liedtka (1998)

states that it is necessary to clearly define strategic thinking, so that this strategic paradigm can be objectively included into the context of strategic management. Wilson (1994) explains that strategic thinking is just thinking about strategy. Mallya (2007) states that for most people, strategic thinking is not a natural act and has to be learned. Most authors working with this problem (Liedtke 1998; Mallya 2007; Souček 2003; Wootton, Horne 2000, etc.) with agree 5:

- Strategic thinking is a synthetic process using creativity, intuition, studying, and the understanding of incoherence of phenomena.
- Strategic thinking is based on a systematic working procedure.

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- Strategic thinking is a process leading to the creation of a successful strategy, enabling to reach competitive advantages.
- Strategic thinking is important for the determination and fulfilment of the long term company goals.
- Only some managers master strategic thinking.
- The goal of strategic thinking is to coordinate goals, means and ways (application) – the so-called strategic triangle.

After analysing further literature, we took the definition of strategic thinking in the wider sense of the word, as Souček (2003) puts it, as a starting point for our working hypothesis. In this definition, strategic thinking penetrates the whole process of strategic decision making, and it is necessary to respect the principles of strategic thinking. But it turned out that, for reasons of practicability, it is necessary to regard certain typical approach (or rather process) of thoughts or an element of it as one of the other success factors of strategic decision making. In different stages of strategy creation, it is necessary that always that element (type of thinking) dominates, that guarantees the success of all decisions. Being aware of the fact that, in the field of searching for strategic solutions, it is not possible to apply the same rules to the thinking approach as are used for routine decisions, we found it useful to only test the symptoms of a certain element of thinking for the respective stage, so that we were able to estimate, how successful the strategic decision can be if this element is there or is not there. Štůsek (2006) found the elements of thought that best reflect this concept with the author Wootton (2000) and developed these further with models of thinking. A key role is pro-active thinking in all stages of strategic decision making in which a new, unrepeatable solution is needed. Reactive and passive thinking plays an aiding, but irreplaceable role here. It is important that it is possible to prove beforehand according to the identifiers, what element of thinking is concerned. The details of the functioning itself are, for the purpose of this study, not important.

WORK OBJECTIVE AND METHODS

The objective of this article is to publish the results of the study GAČR 402/05/2697 that researched the field of strategic thinking by company management during the process of strategic decision making. The published results are mainly analytic and partly methodical and summarize the conclusions of the survey in the basic industries companies as well as in their clients (processing companies). One of the expected

contributions to the creation of models of strategic thinking is to enable the management to react faster and better to changes in the environment and thus to select a suitable strategy more effectively. For this, an instrument could be used to support this decision process. It is called the “Library of Models of Strategic Thinking in Agribusiness”. According to the results of the papers written until now, we do not only plan a printed edition, but also an interactive knowledge system that outputs recommendations generated as reactions on inputs for a type of strategic decision chosen at the beginning.

To reach the defined objective, we selected a method directed at confirming or declining four basic hypotheses which we already described in our former articles. The basic methodological approach was to use an analysis and synthesis method that is clear enough – for this reason we chose the SWOT method. We also used questionnaire surveys for interviewing senior employees of the selected agribusiness companies. Besides, several descriptive, graphical, comparative, and other supporting methods were applied. Because it is necessary to minimize the efforts in the following steps of designing and realization of the library system for strategic thinking models, we also used the common modelling instruments and CASE instruments. By default, they include some method parts to provide an algorithmizable output for the software development. The final objective of the project is to systemize the gained results of the theoretical analysis and the results of the practical research into two usable outputs:

1. The final report (publication). Its basic structure corresponds to the current task description according to the reached results of the finished method. It will include the analysis of the principles, approaches and factors that lead to successful or unsuccessful strategies, their characteristics and case studies.
2. The interactive knowledge system software. Available via intranet/internet, it can serve serious participants in checking to which extent their strategic thinking respects the basic principles and criteria for an optimal procedure and whether they are within the limits of the chosen strategy type. The main purpose of this system will be to check the methodological elements that result from the survey, and to generalise them for the wider technical public. The scope of the knowledge base and the way of the realization of this system (application) depend on the possibilities of further research, the available space on the web server, the choice of programme and the database system of the research team.

RESULTS AND DISCUSSION

This text will cover some further results of the practical research, mainly those that can be generally valid in themselves, correspond with the modern management needs and are equally usable for formulating designs of model procedures for strategic decision making.

Most interviewed company managers consider strategic management to be an important tool for their company development. However, for everyone the terms strategy or strategic management represent different concepts. For most interviewed managers, the terms strategic management or strategy (or strategic thinking) cover for example the following decisions:

- how (where) to invest financial means into company assets,
- what production or sale objectives to specify so that sources are used,
- creating a plan for the next year, etc.

Based on the analysis of primary data in *basic agriculture companies* that have been gained in the questionnaire survey and in structured interviews with top managers and owners, we can state that strategic thinking and strategic decision making are rarely applied on purpose or at least consciously. It can be said that it is usually a better form of classical planning. Often, it is only a transformation (interpolation) of the current results into the future, or creating action plans for strategies that have been identified in advance. It has to be emphasized here that, on the contrary, strategic thinking is a creative process leading to integration prosperity of the whole company.

For a better comprehensibility of the strategic decision making model, it is suitable to use this information to make the decision situation clearer. At the same time, it is necessary to prevent simplifying strategic thinking principles (to offer different decision situations according to the focus).

The mentioned companies, however, have neither business nor operative (partial) strategies worked out in a written form, that is why comparing objectives set and results obtained is problematic. The managers' feedback is therefore weak; the research proceeded from the questionnaire to the interview here to specify the extent and reasons for success or failure of strategic decisions. This point of view emphasizes the fact that it is planning that is in question, even if it can show some elements of strategic approach.

With *processing companies*, such as Madeta a.s., Olma a.s., Váhala spol. s r.o., Rabbit Trhový Štěpánov,

the situation is different. These companies have a written outline of the company strategy. However, this strategy is not elaborated in detail in the field of operative strategy. Nevertheless, it is possible to find the basic direction of the company development or of its business areas (market, finance, production, personnel, etc.) and the strategic goal there. The notion of a mission (the company mission), a vision (a model of the future company status that has to be attempted) or a conception (the concept of the process for fulfilling the vision) differed in individual cases; nevertheless, the clearest formulation was found with the most successful strategy (Rabbit Trhový Štěpánov – steady dynamics, the Czech award businessmann of the year, etc.).

The managers name as reasons for not having a written form of business or partial strategy e.g. lack of time, undefined long-term strategy of agriculture or other business environment circumstances.

If we accept the fact that some business development features show elements of strategic management and thus of strategic decision making, we can observe that the basic business strategy in the studied companies is aimed at growth and gaining steady and decisive competitive advantage. Expressing these facts in the Ansoff matrix of 4 strategy types, we can identify the following strategy types in the companies observed:

- Market penetration strategy – selling the existing products on the existing markets. This strategy is used by both basic agriculture industries companies (as the most used strategy) and processing companies.
- Market development strategy – selling the existing products in new markets. This strategy is applied by e.g. the Váhala spol. s r.o. company that does not cover the whole Czech Republic area (especially western Bohemia is not covered)
- Product development strategy – new products are sold to the existing markets. This strategy was found in processing companies, such as Madeta a.s., Olma a.s., etc.
- Diversification strategy – selling new products in new markets that do not have to be related to the previous business activity. This strategy is mostly used by basic agriculture industries companies. These companies diversify into metal processing industries (e.g. the ZD Dolní Újezd farm produces greenhouses for business chains). This strategy enables the company to use labour force and other resources in a more efficient way.

This basic division is acknowledged and transparent; however, it is insufficient for our modelling purpose. In reality there have been identified further strategy types (gaining control over the key link of the logistics

chain – Rabbit Trhový Štěpánov, survival strategy – smaller dairies, etc.).

Based on the gradual analysis of results gained from the questionnaire survey and from comparing these results to the working hypotheses outlined in advance, the basic structure of the required functional (as a function diagram) and logical successions during strategic decision making (as a decision tree chart) has been designed. The charts showed that the system (software application) is required to offer all known and required functions connected to the strategic decision making process and to allow a defined vari-

ant way through the necessary nodes of the decision tree designed.

The realization of both outputs (mentioned in the section Work Objective and Methods) reflects the team possibilities, the grant task character and the overall aim. Therefore, the standard projecting method according to the proven methodics was used for the the second output realization. This consists in realizing the prototype followed by transforming the proven prototype parts into a pilot solution which will contain the final extent of functions. The prototype solution expects three phases (3 prototypes):

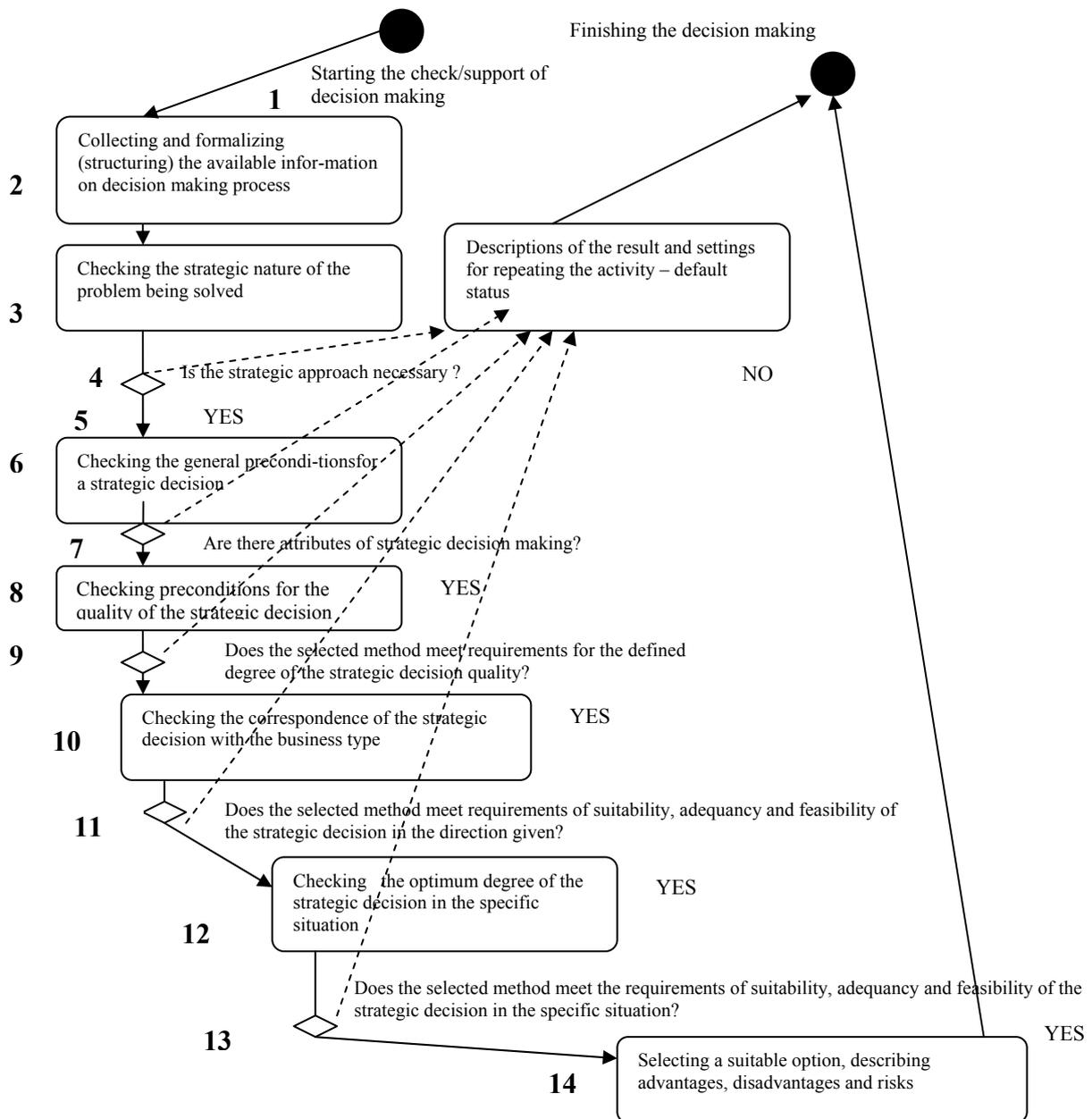


Figure 1. Scheme of key functional dependencies of strategic decision making process from the point of view of its possible software support

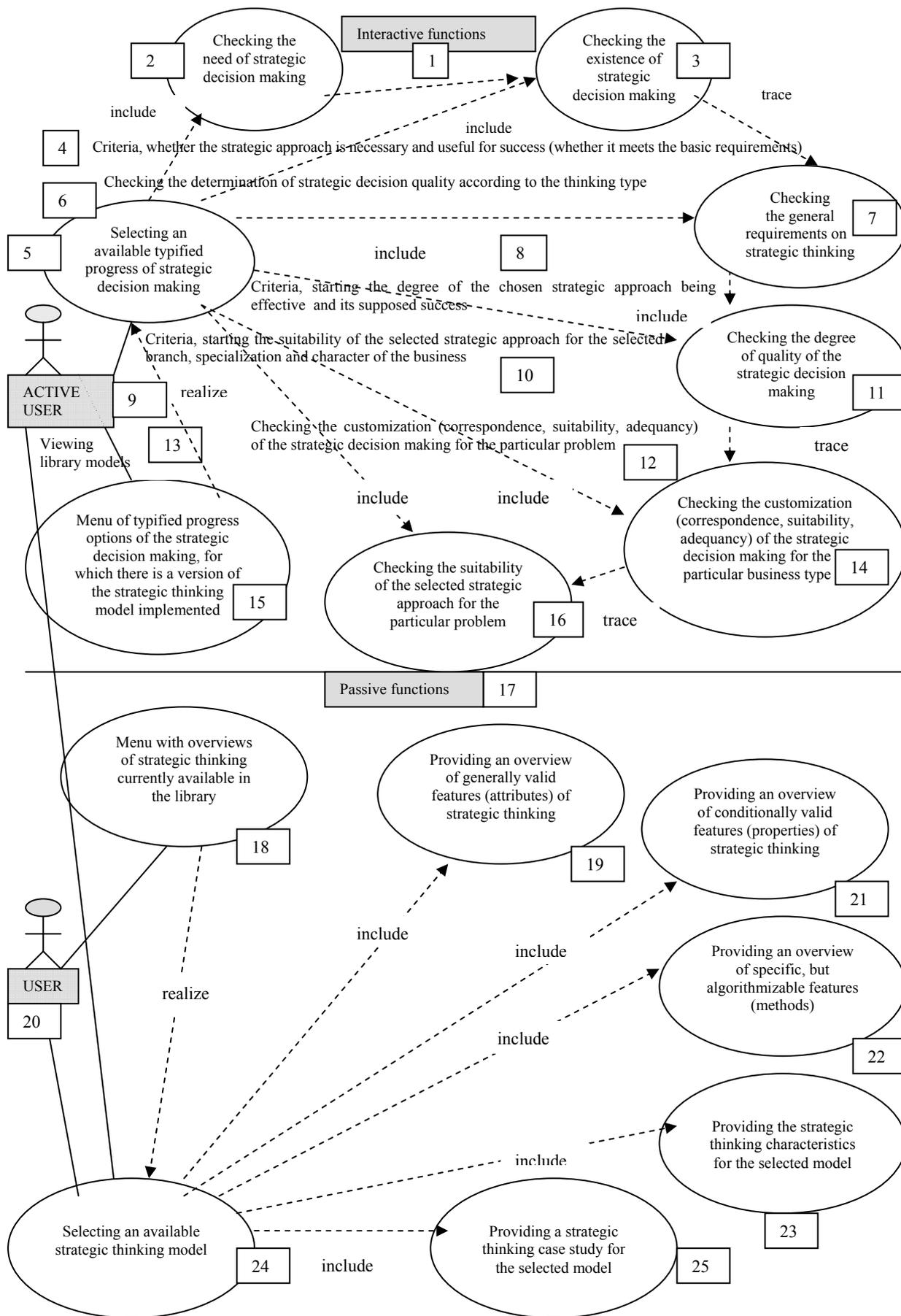


Figure 2. Basic level use case for the library of strategic thinking models-one model, two user types

Prototype 1:

1. Synthesis of the key knowledge for designing the contents of the strategic thinking models library into use cases (the output is the enclosed overall the Use Case Diagram in the zero level containing the list of intended functions and their relation to the potential user).
2. Design of the zero version of the decision tree for the user to go through the system functions (through the strategic thinking models library) for one problem type.
3. Design of the system architecture corresponding with the project structure (the structure will be derived from the technical and technological possibilities of the Czech University of Life Sciences academic environment – probably a three-level architecture, i.e. user interface, middle level of business logic using web services and a data level: a feasible alternative is the possible usage of the proven CLIPS system).
4. Design and realization of the user interface zero version, i.e. the total graphical layout of the system (see screenshots of the prototype 1 developed).

5. Designing and testing the logics of basic handling of the application and starting the test of the selected algorithm elements (necessary for designing data structures, for designing the complete algorithm and programme modules).

Prototype 2:

1. Analysis of the dependencies and algorithmization of knowledge. Output: a functional system model and related diagrams.
2. Processing and analysis of data accessible from the practical investigation. Output: logical data model which is a precondition for creating and operating a knowledge database with expert elements.
3. Realization of the individual system functions according to data from point 1 and 2, possibly also reconstruction of the user interface.

Prototype 3:

1. Finishing the system functions in the business logics level.
2. Pilot run – transfer to server, test run.

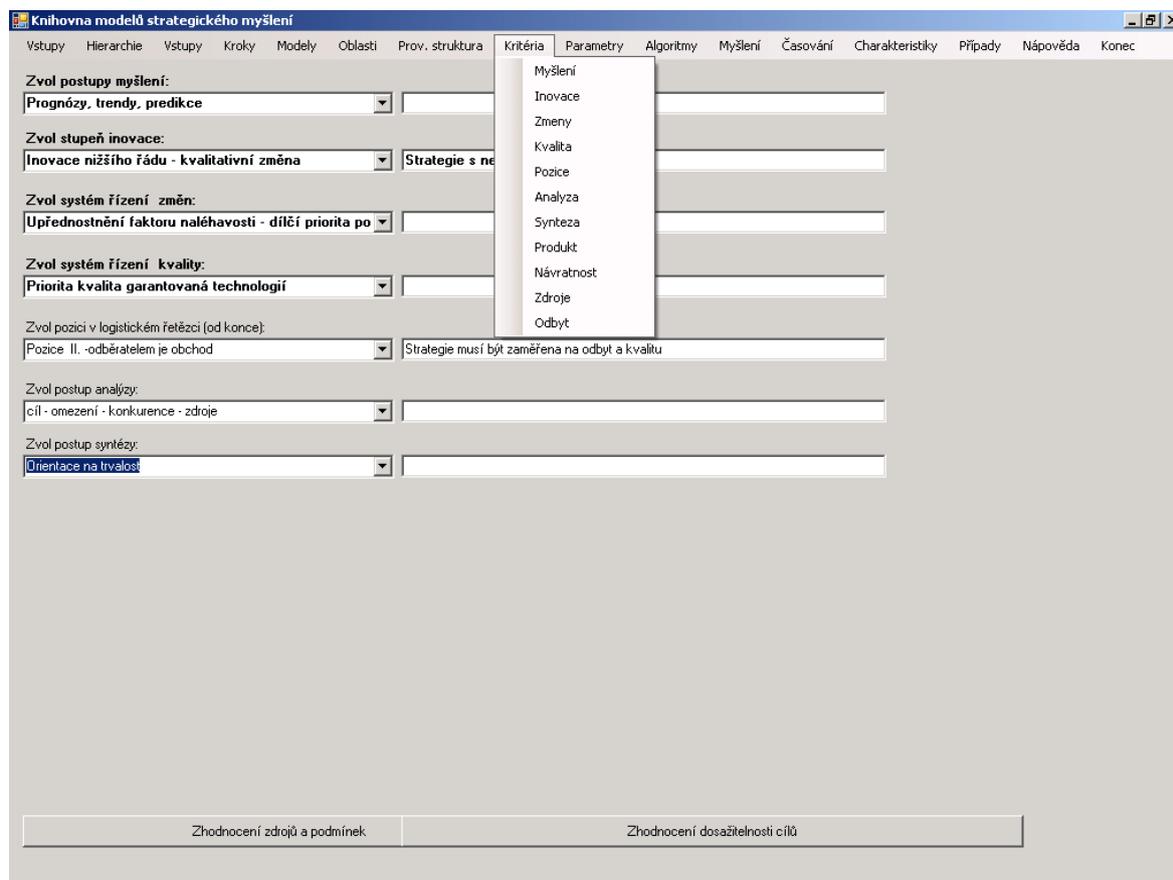


Figure 3. An example of the partial prototype solution of a system for supporting strategic decision making (screenshot in the point of deciding according to criteria – user interface of the thick client zero version)

The scheme of key dependencies of the strategic decision making process according to points of view and according to levels that should be offered by the model decision process is shown in Figure 1.

The scheme represents the introduction wording of the task and an outline specification for a system that would meet the requirements on a tool suitable for supporting strategic decision making and on checking the correctness of the method from the point of view of the selected strategic thinking model. The particular implementation of the task is already a part (one of its phases) of developing a library system for strategic thinking models and has the form of a basic level use case diagram (Figure 2).

A more detailed analysis for the system development contains mainly the partial use case diagrams of lower levels, the functional model, data model, status diagram. Now, the source of data and rules operating over the data is being processed. The source will be used for creating a knowledge base as a comparatively open system.

The system is gradually realized in the form of a prototype solution which should allow a gradual improvement (and partial restructuring of the system design). This required a system design corresponding with input requirements, with the selected system architecture (multilevel architecture, thick client was tested, thin client preferred), with selected development tools (visual.net + database), and with the conditions expected for operating in a test run (asp.net). The current phase of the prototype solution is shown on the screenshot (a picture of the thick client screen) where you can see a typical decision making situation while selecting further progress is shown in Figure 3.

CONCLUSION

Understanding and analysis of factors that substantially influence the operation of companies make it possible to react to these factors in time so that the company can benefit from them. This is especially valid for manager decision making when creating and realizing long-term strategies that substantially affect the development and stability of the company. Strategic decision making is a result of many factors, with the way of creative, inovative thinking having the key position among them. Formalizing and modelling the thinking itself is possible and effective only to the extent, in which it helps managers to find their way into the heart of the matter and to follow the basic principles and methods of optimum decision making without limiting the creative and inovative potential

of trains of thought. This is why in this grant project, the concept of a library for strategic thinking models in agribusiness is a concept of creating the most complex framework possible for supporting strategic decision making. This framework models the syntesis of the proven working hypotheses and their follow-up of the knowledge collected and structured from the survey in companies whose strategic methods have a different success. And that is why designing and checking working methods by realizing a prototype solution of the interactive knowledge system for supporting the strategic decision making is an inseparable part of the grant task.

It has been shown that the following methodics elements can be used for formulating or changing a company strategy:

- a) Localizing the scope, area, direction and type of strategic decision making for gaining strategic dominance
- b) Defining and specifying the strategic problem.
- c) Verifying attributes, properties and parameters of strategic decision making in relation to its potential success.
- d) Analysis of the optimum decision making factors, mainly of the thinking type (model), the innovation level, time horizon of the decision, the position in the logistic chain, the extent of consequences, risks, change of the dependence on sources and limiting conditions.
- e) Concentrating and structuring pieces of knowledge into a usable knowledge system that may serve as a support tool for a selected type (model) of decision situation in agribusiness.
- f) Marginalization (differentiation) of features and principles of strategic decision making and thus of strategic thinking into features necessary (attributes), determining (properties) and optimizing (parameters) for the decision making process. Being aware of and knowing such diferentiation is necessary for the manager to be aware of the decision making process aspects he cannot omit, the aspects that can be influenced and the extent to which they can be influenced.
- g) Every system supporting strategy creating has to be open for permanent changes (both as the knowledge width and depth are concerned).

The knowledge gained from the performed partial analysis and the designed methodical elements have been gradually used in the prototype solution of the system of strategic decision making models. This will be used to check the hypothesis that using it as a supportive tool, the strategic decision making process in agribusiness may be made more effective and that

the tool can be consecutively implemented from the prototype stage into an application usable in praxis. Results gained by the partial analysis show the possibility and necessity of creating standard models of strategic decision making that can be used for fast orientation while creating a strategy.

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