

STRATEGIC PLANNING UNDER UNCERTAINTY: BUILDING THE METAMODEL

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The rate of changes in an organization's environment has increased significantly since the beginning of the information age. The traditional strategic planning process is not sufficient any more for a leading of the organization over time. SWOT analysis and residual uncertainty determining methods have appeared and they are helpful tool when overcoming the insufficiencies of traditional strategic planning. The beginning of the strategic planning cycle is one milestone where these methods should be implemented. Furthermore, they should be implemented at the beginning of each significant activity within strategic plan. Strategic planning, SWOT analysis, and residual uncertainty determining are considered as a whole, which is prerequisite for gathering all three of these methods into one methodology. A methodology is developed step by step through the definition of the metamodel, which is built by following the phases of strategic planning cycle. The proposed metamodel represents the data from the perspective of the strategic planning process, while the process and dynamic perspectives are not considered. The proposed metamodel makes it easier to understand the strategic planning process, and at the same time logically connects all data that has been generated through the strategic planning cycle. Furthermore, the data perspective of the metamodel can be used as a basis for the database schema development, in which the data generated by this process could be kept and updated. The proposed metamodel is not necessarily the final product. It could be further developed by adding more entities that will keep some other data, e.g. the results obtained by using some analytical tools for dealing with uncertainty.

Keywords: strategic planning, SWOT analysis, residual uncertainty, strategy, decision-making, methodology, metamodel, automated tools.

1. INTRODUCTION

After strategic planning appeared in the mid-1960s, company leaders started to accept it as "the best way to devise and implement strategies that would enhance the competitiveness of each business unit" [10]. This way of thinking and acting was successful during a time when the rate of changes in an organization's environment was relatively low. However, with the rapid development of science and technology, and with the transition from the industrial age to the information age in the mid-1980s, organizations were faced with substantially increased rates of change. Under these circumstances traditional strategic planning was not enough to maintain the competitiveness between organizations. SWOT analysis was developed to help assess an organization's maturity when accepting business changes due to changes in the environment. Although nowadays it is necessary to perform SWOT analysis, it is not powerful enough in itself to make qualitative decisions, namely whether "to go" or "not to go". After the best possible SWOT analysis has been completed, a certain level of uncertainty remains, and this is called residual uncertainty [7]. It can be resolved in three steps: determining the level by taking a strategic posture, and by choosing the right action.

Strategic planning, that has been extended by the methods of SWOT analysis and residual uncertainty, is the base for strategic decision making under the uncertainty. This paper compiles the aforementioned methods into one methodology by developing the metamodel of the data perspective of the methodology. The metamodel is developed as an attributed entity-relationship model using IDEF1X (Integrated DEFinition) concept notation [1].

2. IDEF1X (Integrated DEFinition) notation

For the purpose of understanding the metamodel easier, it is logical to summarize the basic IDEF1X concepts (the types of entities and relationships) that are used in data modeling (Fig. 2.1.). The IDEF1X notation is accepted as a standard in data modeling for defense information systems in NATO.

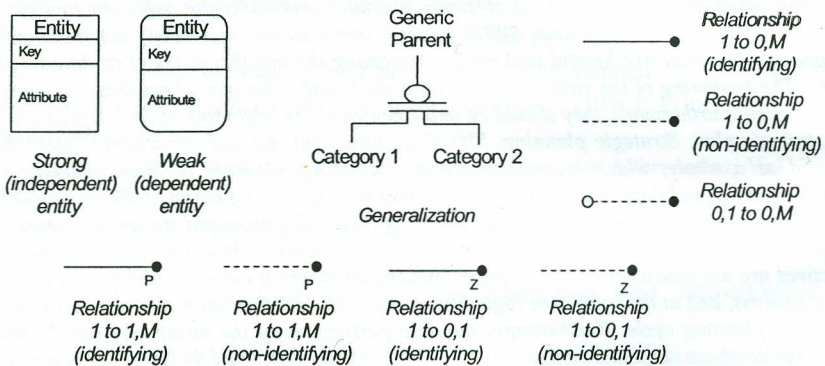


Figure 2.1. IDEF1X Concepts

Although the key and attribute areas are separated within the entity, foreign keys are treated as attributes and therefore belong to the attribute area.

As this paper deals with the data perspective of the proposed methodology, IDEF1X notation has been chosen. For the purpose of modeling process and the dynamic perspectives of the strategic planning process, the IDEF0, IDEF3 (process modeling) and IDEF4 (object oriented modeling) notations would be suitable, but these perspectives are not discussed here.

3. STRATEGIC PLANNING

Planning is performed on all levels of organization management and can be divided into three areas: strategic, tactical and operational planning. Accordingly, there are three types of plans: strategic, tactical and operational. Another attribute of a plan is the time period that plan is actually made for. Information about the type of plan will be kept in the entity *PLAN-TYPE* in a metamodel and the information about the time period will be kept in the attributes *plan-start-date* and *plan-end-date* of the entity *PLAN* (Fig. 3.1.). Each plan that was made by the organization belongs to one of the organization's units. Therefore information about the whole organization' structure should be kept in the metamodel. For this purpose an entity with a recursive relationship has been added to the metamodel. This entity is known as *ORGANIZATION*.

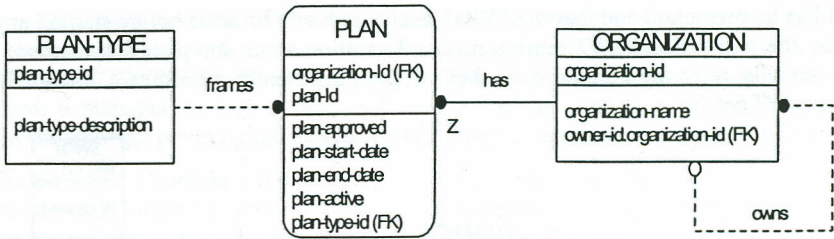


Figure 3.1. Organization and Plans

Through the strategic planning process the organization must answer three basic questions (Fig. 3.2.):

- a) Who are we, what do we do exactly, and why? (“As-Is” state)
- b) What do we want to be and what do we want to do in the future, and why? (“To-Be” state)
- c) How do we get from a to B? (the strategic plan)

These questions can be answered through the structured ten-steps-process, e.g. the strategic planning cycle [2]. The information generated in its process must find their place in the entities of the metamodel.

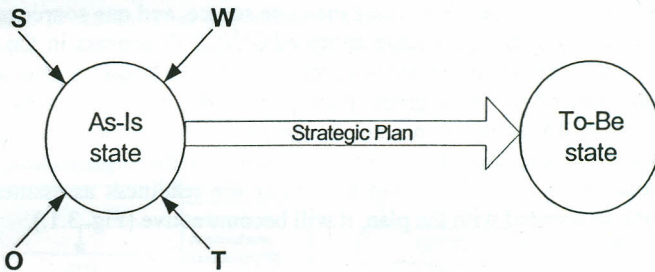


Figure 3.2. Strategic Planning and SWOT analysis

Step 1. *Initiating and Making an Agreement on the Strategic Planning Process*

Before the strategic planning process starts, it is necessary to assess if the organization is ready. The purpose of this readiness assessment is to find out how capable the organization is of undertaking a strategic planning effort and whether some extra resources are needed or not. There are four organizational areas that should be explored through the assessment process: (1) Mission and Vision (2) Financial and human resources management (3) Communications and (4) Leadership, Management, and Organization.

Each area is explored from the perspectives of internal strengths and weaknesses, as well as from external opportunities and threats, e.g. a SWOT analysis should be carried out (Fig. 3.2.). Elements within each area of assessment that present strengths, weaknesses, opportunities or threats should be identified and given certain weight with which they contribute in the overall readiness assessment. Information about the assessed areas, SWOT perspectives, and elements will be kept in the entities *AREA-ASSESSMENT*, *SWOT*, and *ELEMENT* (Fig 3.3.). By keeping in mind that the organization has more than one plan (each

unit has its own plan) and that the SWOT analysis should be done before starting any of these plans, the entity *ELEMENT* must contain information about the plan that assessed elements can actually refer to. Therefore the key of the *PLAN* entity becomes a foreign key in the *ELEMENT* entity.

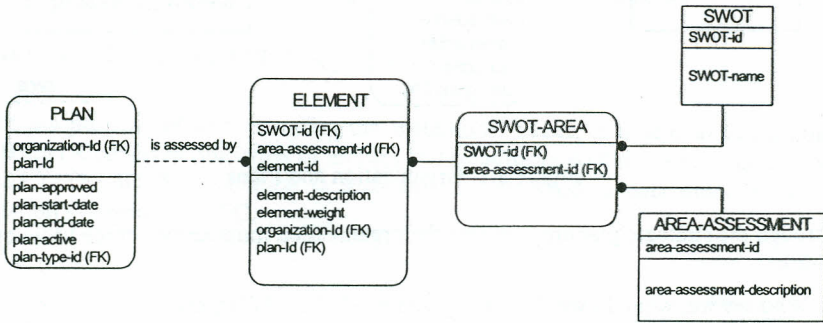


Figure 3.3. A Readiness Assessment for Strategic Planning

Two additional terms should be included in the strategic planning readiness assessment the – expected costs (by they direct or indirect) and expected benefits (direct or indirect). Entities *COST* and *BENEFIT* entities will keep information about costs and benefits respectively (Fig. 3.4.). At the same time, it is important to have information about financing the costs. A cost can be financed from more than one source, and one source can finance more than one cost. Therefore, the associative entity *FINANCING* appears in the metamodel. As well as storing information about the sources that finance these it also stores costs, the amount of costs financed by the sources. Each plan in the organization can be financed in different ways, so *PLAN* entity is in a relationship with the *FINANCING* entity. As every plan, apart from the costs, should have some benefits for the organization, the *PLAN* and *BENEFIT* entities are in the relationship too. After the readiness assessment, if managers make the decision to proceed with the plan, it will become active (Fig. 3.1.).

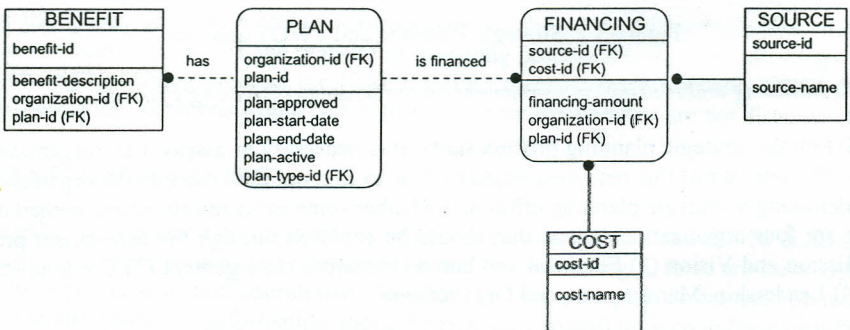


Figure 3.4. The Costs and Benefits of Strategic Planning

At the beginning of the strategic planning process it is necessary to determine the human and time resources needed for the implementation of the plan, as well as the activities (subactivities) that will take place. Information about human resources is in the *PERSON*

entity (Fig. 3.5.). Each instance of that entity presents the person involved in the strategic planning process with his/her function within or outside of the organization. Function codes are placed in the *FUNCTION* entity, and instances of this keep information such as: a member of the board, a manager of high status, mid manager or an outside consultant. Persons involved in the strategic planning process have been grouped into several different teams:

- *The Strategic Planning Co-ordinating Committee (SPCC)*. They direct and oversee the strategic planning process directly, and they direct and oversee the tactical operational the planning indirectly. As a rule, one SPCC is organized on a strategic level, but the complexity of some of the tactical or operational plans can cause the special SPCC to be organized for these levels, too. Information about the people who that are members of the SPCC for certain plans are placed in the associative entity *SPCC*.
- *The Strategic Planning Team (SPT)* is carefully organized for each plan. The associative entity *SPT* keeps the information about SPT membership.
- *The Working Group* consists of the people who execute some of the activities (sub activities) of the plan. The associative entity *GROUP* keeps the information about working group membership. Attribute *group-role* contains information about a person's role in the working group (i.e. whether that person is a leader or just a member of a certain group).
- *The Support Group* the people persons whose charismatic or other informal characteristics can positively influence the strategic planning effort (process champions). It can be very important to identify these people in the SPT. Whether SPT member belongs to a support group or not is determined by the logical value of the attribute *SPT-champion*.

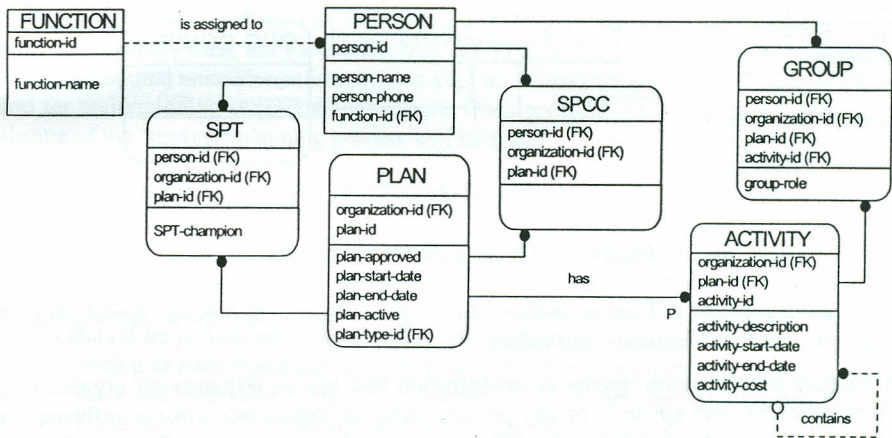


Figure 3.5. Human Resources and Plan Activities

Every plan contains a number of activities, each of which can contain sub activities. Information about the activities is placed in the *ACTIVITY* entity has a recursive relationship. The attributes *activity-start-date* and *activity-end-date* determine an activity's time frame, and the attribute *activity-cost* contains the information about an activity's planned costs.

Step 2. *Clarifying Organizational mandates*

The purpose of this step is to clarify the formal and informal mandates placed upon an organization. These mandates determine what has to be or what should be done in accordance with an organization's policy or mission. They also determine what needs to be done when considering the state and local laws and regulations. Mandates are also the standards or norms used by an organization in order to successfully fulfill its mission. In this context mandates could be considered as constraints that an organization is faced with. Each constraint makes certain requirements that must be met by an organization. Information about constraints is placed in the entity *CONSTRAINT* (Fig. 3.6.), and information about specific requirements a defined by constraint will be kept in the requirement entity. Besides, each constraint has its own source (e.g. its mission, an internal regulation, the state law, the local law, a standard, etc.). Information about this source is kept in the *CONSTRAINT-SOURCE* entity. The attribute *constraint-status* contains information about the current status of the constraint, i.e. whether it is still appropriate or out of date. As every organization can have more than one constraint and as every constraint can apply to more than one organization, the associative entity *ORG-CONSTR* is needed to keep information about which constraints apply to which organization.

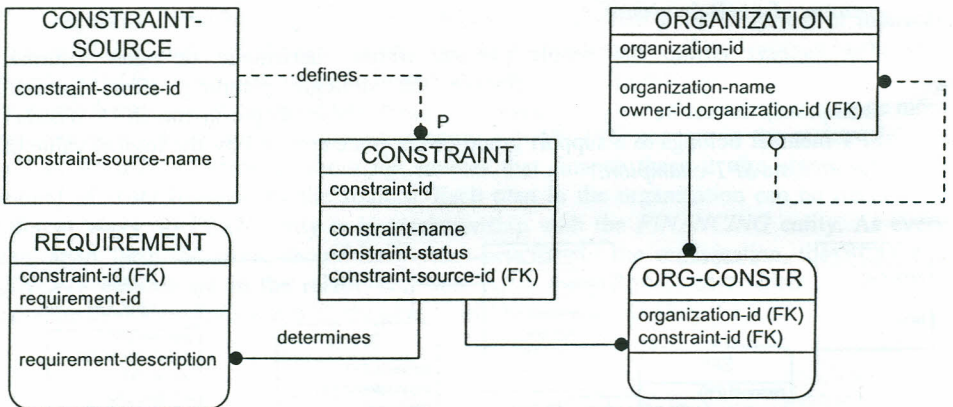


Figure 3.6. Organizational constraints

Step 3. *Identifying and Understanding An Organization's Sponsors. Developing the organizational mission and values.*

A sponsor is any person, group, or organization that has an influence on organizational resources, products, and services, or any person, group or organization that is influenced by the organizational products and services [2]. Sponsor analysis is the identification of internal and external sponsors, their value judgements about the organization, their influences on the organization, what the organization may need from them, and just important they are to the organization. Results obtained by this analysis can be used as a basis for a definition of the organization's mission and organizational mission definition and for determining which sponsors should be included in the strategic planning process. As well as determining the organization's mission, organizational values should also be determined. These values provide the code or behavior that an organization strives for. The main entity that comes from

this step in the metamodel is the *SPONSOR* entity (Fig. 3.7.). The value of the attribute *sponsor-type* determines whether the sponsor is from within the organization (internal) or from outside of the organization (external). Every activity in the planning process can have more than one sponsor and every sponsor can be included in more than one activity.

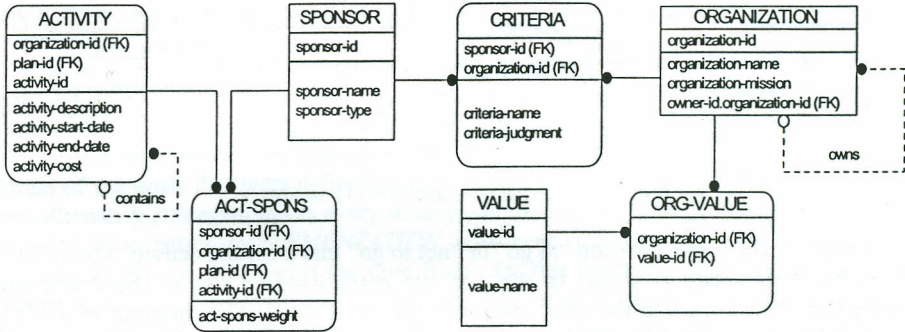


Figure 3.7. Sponsors, Mission and Values

Therefore the associative entity *ACT-SPONS* is needed. The attribute *act-spons-weight* illustrates just how important the sponsor is for certain activities. Each sponsor measures organizational performance according to certain criteria. The associative entity *CRITERIA* stores the information about which organization is judged by which sponsor. The attribute *criteria-judgment* contains information about the evaluation (be it very good, good, or meets) a certain sponsor gives for a certain organization.

Every organizational unit can have more than one value in its code of behavior (team work, competency, trust, etc.) and one value can exist in the codes of behavior of more than one organizational unit. This information is kept in the associative entity *ORG-VALUE* and is good for understanding organizational culture. Once organizational culture is understood, the tailoring of the strategic planning process will be easier.

Step 4. *Environment Assessment (SWOT Analysis)*

The purpose of the SWOT analysis made in the first step (initiating the strategic planning) was to assess the organizational maturity for the strategic planning process (Fig. 3.2.). However the first step is not the only place in the strategic planning process where a SWOT analysis should be performed. It should also be implemented through the elements (Fig. 3.3.) at the beginning of each significant activity (Fig. 3.8.). Therefore the relationship between the entities *PLAN* and *ELEMENT* (Fig. 3.3.) changes into the relationship between the entities *ACTIVITY* and *ELEMENT*. Readiness assessment for the strategic planning process (the first SWOT analysis) can be considered as the “zero activity” of the strategic plan (See Fig. 3.11. – the diagram is stored later in the text).

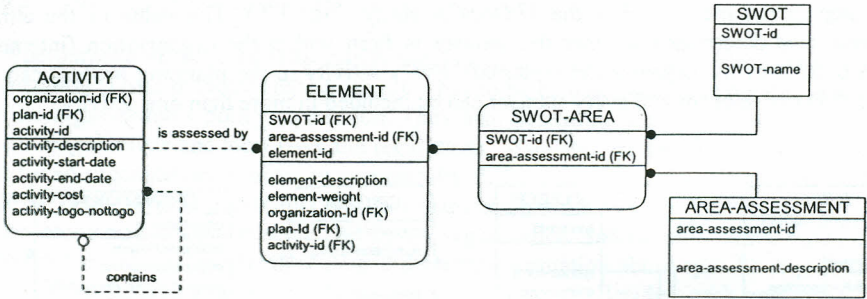


Figure 3.8. Activities and SWOT analysis

Information about the decision “to go” or “not to go” into a certain activity after a SWOT analysis has been made is stored in the attribute *activity-togo-nottogo*. The environment assessment does not include the new entities in the metamodel. The meaning of a SWOT analysis is based on the fact that it gives directions for effective strategies, because every good strategy is based upon internal strengths and external opportunities. While at the same time, a strategy tries to overcome or minimize internal weaknesses and external threats.

Step 5. Identifying and Defining Strategic Goals

The strategic goals are the basic issues or challenges that influence the following: organizational constraints, the organization’s mission, level of services or products, the customers, the costs, financing, the organization, itself, and management. Identification of the strategic goals is the heart of strategic planning process. The purpose of all of the previous steps was to collect enough information to identify and define the framed organizational goals. The way these goals are defined influences the following: the processes within the organization, strategy formulation, the assessment of sponsors’ interests, the assessment of the costs and benefits of alternative strategies, and the assessment of the advantages and disadvantages of various strategies. Goals must be defined for each plan and therefore the new entity *GOAL* is added to the metamodel. This entity is in a relationship with the *PLAN* entity (Fig. 3.9.).

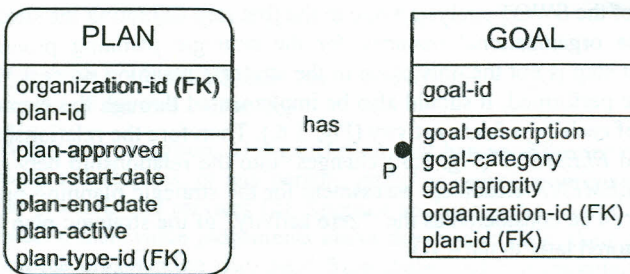


Figure 3.9. Goals

Each goal in the set of goals has a clearly determined priority. Information about this priority is contained in the attribute *goal-priority*. There are three types of goals [2]:

- goals that require immediate action (current goals)
- goals that will probably require action in the near future (short-term goals)
- goals for which it is not clear whether they will require action in the future, but these goals must be observed (uncertain goals).

Information about a goal category is kept in the attribute *goal-category*.

Step 6. Formulating Strategies to Achieve the Goals

A strategy is a pattern of intentions, policies, programs, projects, actions, decisions, and resource allocations that defines what an organization is, what it does, and why it does it [2]. A strategy can vary depending on the following: the organizational unit level, the functional area, and the time frame. The purpose of this step is to define the set of strategies that will address of the goals that were defined in step 5. As every goal can be achieved by using of more alternative strategies and as every strategy can be applied to achieve more than one goal, the associative entity *IMPLEMENTATION* will keep information about which strategy addresses which goal and what the time frame for this process actually is. There are four types of strategy: grand strategies for the organization as a whole, the organizational units strategies, programs, services, projects or business process strategies, and functional area strategies (e.g. human resource management, finance, information technology, etc). Information about a strategy type is contained in the *STRATEGY-TYPE* entity.

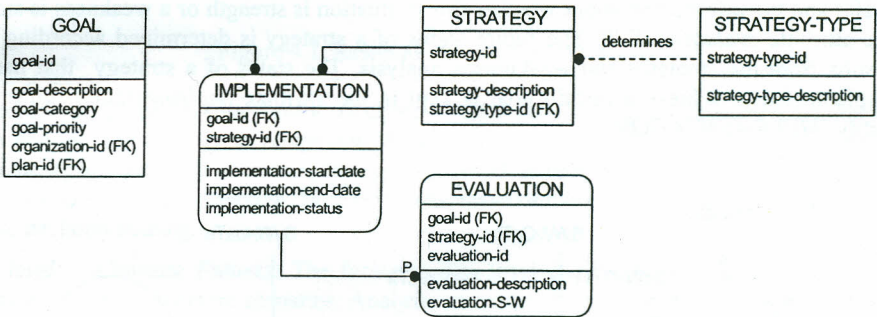


Figure 3.10. Strategies

Step 7. Adopting the Strategic Plan

This step presents a milestone, as this is the point in the strategic planning process where the decision “to go” or “not to go” should be made. The results from previous steps make it possible to develop the first version of the strategic plan. This version should be adopted and approved by the SPCC. The attribute *plan-approved* of the *PLAN* entity contains information about the strategic plan’s approval (Fig. 3.1.).

Step 8. Establishing an Effective Organizational Vision for the Future

This step gives a description of what the organization would look like if the strategic plan had been successfully implemented. Usually an organization has to pass through several strategic planning cycles in order to achieve its “vision of success”. This vision should consist of the following elements (Fig. 3.7., 3.10.):

- the mission (contained in the attribute the *organization-mission* of the *ORGANIZATION* entity),
- the basic values and ethical standards (contained in the *VALUE* entity),
- defined strategies (contained in the *STRATEGY* entity).

Step 9. *The Development of an Effective Implementation Process*

Simply developing the strategic plan is not enough. Creating the activities plan and the implementation process will give life to the strategies and make them of real value to the organization. The purpose of this step is to define the activities that will mean the implementation of certain strategies to achieve the defined goals. Elements like human resources, time and financial resources ought to be defined for each activity. Information about these elements is kept in the *ACTIVITY* and *GROUP* entities (Fig 3.5.).

Step 10. *Reassessing Strategies and the Strategic Planning Process*

In this step an analysis of the efficiency of both the implemented strategies and the strategic planning process is carried out, the new planning cycle. The emphasis here is placed on the strategies' reassessment in order to decide what should be done with them. Strategies can be maintained, superseded and replaced with new ones, they can be terminated. They are evaluated in respect to their strengths and weaknesses during their implementation for achieving certain goals. A strategy's evaluation is contained in the entity *EVALUATION* (Fig. 3.10.) and the information about whether this evaluation is strength or a weakness is stored in the attribute *evaluation-S-W*. The future status of a strategy is determined according to the results from the strengths and weaknesses analysis. The status of a strategy that has been implemented to achieve a certain goal is kept in the attribute *implementation-status* of the entity *IMPLEMENTATION*.

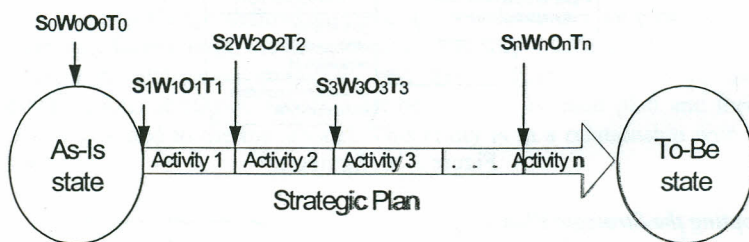


Figure 3.11. SP, Activities, and SWOT analysis

If the proposed strategic planning cycle is implemented, figure 3.2. will change, because at the beginning of every significant activity a SWOT analysis is carried out (Fig. 3.11.). A SWOT analysis and its results insure more qualitative decisions about whether an activity will be performed or not. The decision making process is less complex and the probability of an activity being performed completely is higher.

4. DECISION MAKING AND UNCERTAINTY

Uncertainty in the decision making process while implementing the strategic plan (that still remain after the best possible SWOT analysis has been carried out, can be called residual uncertainty [7]. There are four levels of uncertainty, depending on what is known while making the decision (Fig. 4.1.). For each level there is a set of analytical tools that can be used to reduce the uncertainty.


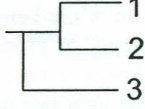


Level of Uncertainty	1. A Clear-Enough Future 	2. Alternate Futures 	3. A Range of Futures 	4. True Ambiguity 
What Can Be known?	A single forecast precise enough to determine the strategy	A few discrete outcomes that define the future	A range of possible outcomes, but no natural scenarios	No basis to forecast the future
Analytic Tools	"Traditional" strategic planning	- Decision analysis - Option valuation models - Game theory	- Technology forecasting - Scenario planning	- Analogies and pattern recognition - Non-linear dynamic models

Figure 4.1. Residual uncertainty levels

I. level – A Clear Enough Future. Decision-makers can develop a single forecast that is precise enough for strategy development. Although it can be imprecise since all business environments are naturally uncertain, the forecast could be reduced sufficiently so as to lean towards a single strategic direction. In other words, residual uncertainty is unimportant for the strategic decision making.

II. level – Alternate Futures. The future at this level can be defined as one of a few alternate outcomes or discrete scenarios. Analysis can not help in determining which outcome will happen, although it can help in establishing the probabilities of various outcomes.

III. level – A Range of Futures. It is possible to identify the range of futures defined with a limited number of variables, but the real outcome may lie anywhere in the continuum bounded by that range. There are no natural scenarios.

IV. level – True Ambiguity. Multiple dimensions of uncertainty interact and create an environment in which it is impossible to make predictions. Unlike the level three situations, the boundaries of the range of potential outcomes can not be determined. It may even be the case that all the significant variables that define the future could not be found. Level IV situations are rare, and if they do exist they tend to become lower level situations over time.

Before anything can be said about the dynamics of the strategy formulation at each level of uncertainty, a basic vocabulary about the strategy should be introduced. Firstly, there are three strategic postures that the organization can take while facing an uncertainty: *shaping the future, adapting the future, and reserving the right to play.* Secondly, there are three types of activities that can be used to implement the strategy: *big bets, options, and no-regrets moves.* Basically, a posture presents the strategic intent with regard to the current and future state of the environment. "Shaping the future" helps the organization move towards the new structure

of products or services, that have been unknown to the market (the environment) until now. This can be achieved by shaking up the relatively stable I. level organizations, or by taking control over the environment at higher levels of uncertainty. “Adapting the future” starts from the current environment structure and competition, and tries to react to the opportunities that the current environment offers. “Reserving the right to play” is a special instance of adapting. This posture is significant for levels II, III, and IV. It includes small investments that put the organization in a better position. In other words, the organization is buying time and waits for a less uncertain environment in order to develop its strategy. Taking a posture is not a complete strategy. A posture explains the strategic intent, but does not tell us about the activities that should be undertaken to fulfill the intent. **There are three types of activities** that are important for strategy implementation while being in a level of uncertainty. *Big bets* are the activities that present capital investment or procurement. These activities result in large incomes in certain scenarios, or in big losses in other scenarios. They are mostly used in the posture “shaping the future”. *Options* are activities that insure large incomes in the best case scenario, and minimize the losses in the worst case scenario. This type of activity is usually used in the posture “reserving the right to play”. The *No regrets* activities can be considered as activities that make moves with positive payoffs no matter what will happen in the future. A strategic planning process that includes the methods of SWOT analysis and residual uncertainty presents a methodology for organization management in the information age. Therefore, information about uncertainty levels, strategic postures, and activities should be kept in a proposed metamodel. The entities *UNCERTAINTY-LEVEL*, *POSTURE*, and *ACTIVITY-TYPE* are introduced (Fig. 4.2.).

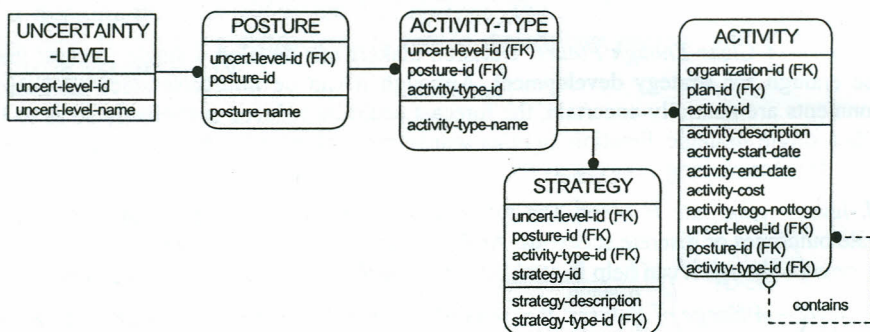


Figure 4.2. Residual Uncertainty, Strategies, and Activities

Since a good strategy can not be defined without elements of residual uncertainty, the entity *STRATEGY* becomes existentially dependent on the *ACTIVITY-TYPE* entity. At the same time, activity execution (i.e. the decision about whether to proceed with an activity or not) depends on residual uncertainty. This is good enough reason for the keys of the entities *UNCERTAINTY-LEVEL*, *POSTURE*, and *ACTIVITY-TYPE* to become the foreign keys of the *ACTIVITY* entity. If SWOT analysis and the residual uncertainty method are conducted at the activity level, the strategic planning process can be depicted as in figure 4.3.

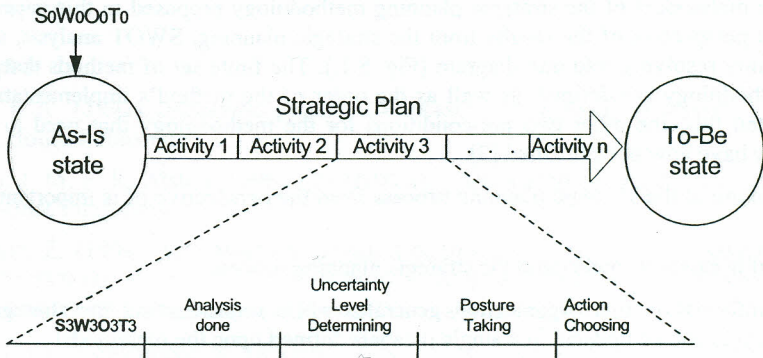


Figure 4.3. Strategic Planning, SWOT, and uncertainty

5. THE METHODOLOGY METAMODEL

One of three pre-conditions that a methodology must fulfill in order to be well defined is that the overall results of the methodology implementation can be shown in/by one metamodel [3].

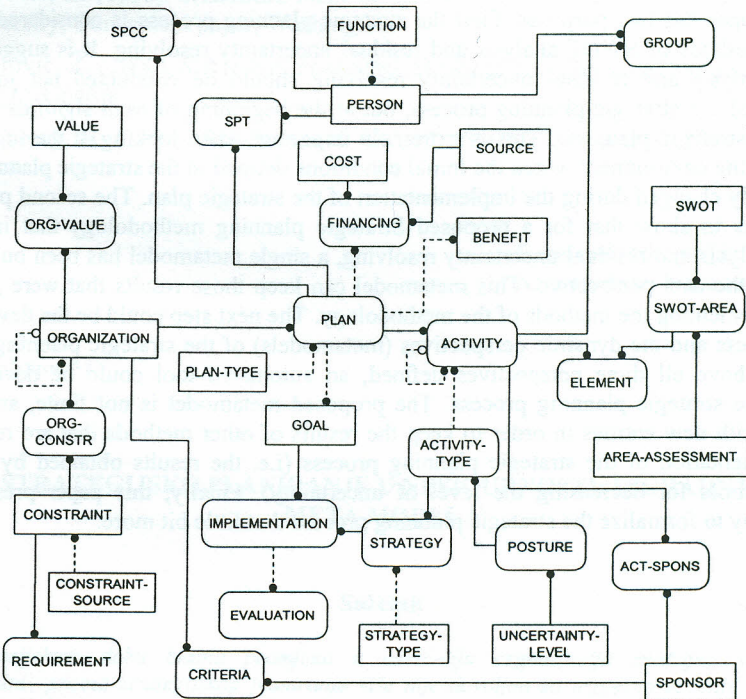


Figure 5.1. A metamodel of Strategic Planning under an Uncertainty

The metamodel of the strategic planning methodology proposed in this paper, combines the data perspective of the results from the strategic planning, SWOT analysis, and residual uncertainty resolving into one diagram (Fig. 5.1.). The finite set of methods that are used in the methodology are defined, as well as the order of the method's implementation. Having completed this, the other two pre-conditions for the methodology that need to be defined properly have now been fulfilled [3].

Looking at the strategic planning process from the perspective of is important for several reasons:

- it is easier to understand the strategic planning process
- information that organization generates while implementing the strategic planning cycle can be updated in a single database formed upon the metamodel
- the updated database presents us with a source for various types of analysis (the effectiveness of a Strategy's implementation in achieving the stated goals, how efficient is the organization when facing the different levels of uncertainty, etc.),
- keeping track of historical data generated in previous strategic planning cycles allows for an analysis of "similar cases", and it makes it easier to define an organization's strategy and it leads to better decision making.

6. CONCLUSION

This paper has two purposes. First the strategic planning process is considered together with the methods of SWOT analysis and residual uncertainty resolving. It is suggested that SWOT analysis and residual uncertainty resolving should be conducted not just at the beginning of the strategic planning process, but at the beginning of each significant activity within the strategic plan, too. This is extremely important when looking at the high rate of changes in the environment, when the initial conditions defined in the strategic planning cycle can be easily changed during the implementation of the strategic plan. The second purpose of the paper is to show that for a proposed Strategic planning methodology that includes a SWOT analysis and residual uncertainty resolving, a single metamodel has been built. It was built from the data perspective. This metamodel can keep those results that were generated while implementing the methods of the methodology. The next step could be the development of the process and the dynamic perspectives (metamodels) of the strategic planning process. Once you have all three perspectives defined, an automated tool could be developed to support the strategic planning process. The proposed metamodel is not finite, and can be extended with new entities in order to keep the results of other methods that are relevant to the implementation of the strategic planning process (i.e. the results obtained by using of analytical tools for decreasing the level of uncertainty). Finally, this paper presents one possible way to formalize the strategic planning process that little bit more.

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STRATEGIJSKO PLANIRANJE U NESIGURNOSTI: IZGRADNJA META MODELA

Sažetak

U informacijskom dobu brzina promjena u okruženju organizacija značajno se povećala. Tradicionalni proces strategijskog planiranja više nije dovoljan za uspješno vođenje organizacije kroz vrijeme. Uvode se metode SWOT analize i određivanja rezidualne nesigurnosti kao pomoć u strategijskom planiranju. Primjena ovih metoda nije dovoljna samo na početku ciklusa strategijskog planiranja, već i na početku svake značajnije aktivnosti u strateškom planu. U radu se daje zajednički pogled na strategijsko planiranje, SWOT analizu i određivanje rezidualne nesigurnosti, čime se gradi

metodika koja uključuje sve navedene metode. Metodika se gradi postupno kroz definiranje njenog meta modela, prateći pojedine korake u procesu stratezijskog planiranja i logički povezuje podatke generirane kroz ciklus stratezijskog planiranja. Osim toga, meta model se može iskoristiti kao osnova za izgradnju baze podataka u kojoj bi se čuvali podaci generirani u ciklusu stratezijskog planiranja. Time se stvaraju i preduvjeti za izgradnju automatiziranih alata za potporu procesu stratezijskog planiranja. Predloženi meta model nije konačan i može se u nekim segmentima proširiti (npr. Entitetima koji bi sadržavali podatke o rezultatima primjena pojedinih analitičkih alata za smanjenje nesigurnosti). On predstavlja jedan od pristupa daljnjoj formalizaciji procesa stratezijskog planiranja.

Ključne riječi: stratezijsko planiranje, SWOT analiza, rezidualna nesigurnost, strategija, donošenje odluka, metodika, meta model, automatizirani alati.