

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Management



Bachelor Thesis

**Strategy Development Based on Scenario
Planning**

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Declaration

I declare that I have worked on my bachelor thesis titled “ Strategy development Based on Scenario Planning” by myself and I have used only the sources mentioned at the end of the thesis.

In Prague on date 30.04.2010

signature _____
Jan Hořický

Acknowledgement

I would like to thank Richard Selby and my parents, for their advice, support and patience during my work on this Thesis.

Strategy Development Based on Scenario Planning

SUMMARY:

Bachelor thesis considers scenarios, in a form proposed by Kees van der Heijden, as significant tools for qualitative analysis of organizational environment in the process of strategy creation. Thesis defines the strategy in the context of the strategic management theories. Scenarios considered in the thesis don't use the probabilistic approach. They try to encompass the any uncertainty in the environment, provided it is not absolutely uncertain. Scenarios are created on the workshops of organization's employees, identifying key variables and defining causal relationships. Team ends up with 3-5 scenarios of equal likelihood.

SOUHRN:

Bakalářská práce pojednává o scénářovém pojetí Kees van der Heijden, jako významném kvalitativní prostředku analýzy okolí podniku při tvorbě strategie. V práci je vymezen pojem strategie a přehled jak strategii chápou jednotlivé teorie. Tyto scénáře nepracují s pravděpodobnostními prognózami vývoje okolí ale snaží se zachytit nejistotu okolí, která není absolutně „nejistá“. Scénáře jsou vytvářeny na workshopech pracovníků podniku, kteří postupně rozpoznávají určující proměnné a kauzální vazby. Tým svou práci končí vytvořením 3-5 scénářů o stejné věrohodnosti.

KEY WORDS:

Strategic planning, environment, scenario planning, scenarios, structural uncertainty, causal relationship

KLÍČOVÁ SLOVA:

Strategické plánování, okolí, scénářové plánování, scénáře, strukturální nejistota, kauzální vztah

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2. Introduction

My bachelor thesis is focused on the subject of scenarios planning, namely the scenario planning as described by the Kees van der Heijden a theoretician as well as a former head of planning in Royal Dutch Shell. Scenario planning is the part of wider subject of strategic management. If there is a box for it, a place in the strategic management taxonomy, it would be sorted as a specimen of strategic planning family. This is fairly misleading as scenarios can take many shapes and integrated various approaches. One common denominator is the aspiration to explore the possible futures.

The importance of the scenario planning approach of Kees van der Heijden rests with the way they approach uncertainty. They can be understood as a set of managerial tools enabling the organization to explore the causal relationships in its environment. They don't employ the hard data robust models with all the covariance and multivariate regressions; they rather seek for the knowledge through means of human mind and sensible approach to the learning. Understanding complex environment is a difficult task and in practice there can hardly ever be a model that will encompass all its nuances and even a negligible difference leads to disastrous outcomes of econometric models. The stress on unconventionality, the original thought is embedded in the structure of qualitative scenarios since their first appearance in the world of business. It was Pierre Wack executive of Shell oil who was original enough to use those scenarios to prepare the Shell for major oil crisis. Shell then gained competitive advantage and scenarios the notoriety. Nowadays similar scenario processes are used to increase the flexibility of companies facing the unexpected. I tried to use the approach described by Heijden, adapt it and do my own scenario creation as a case study. I summarized and evaluated my findings in the conclusion.

3. Objectives of Thesis and Methodology

3.1. Objectives

I would like to conduct a research in the qualitative scenario planning. I assume the hypothesis that scenario planning aids the understanding of the environment and attributes to the quality of the strategy created. In order to prove or disprove my hypothesis I will research the literature and create the scenarios in the context of the strategy of a real world company. I will evaluate my findings in the end of the thesis.

3.2. Methodology

In the bachelor thesis following methodology is applied:

- Literature analysis – used for the review of strategic management and scenario planning
- Creation of verbal models – in the drafts of scenarios for the case study
- Methods of financial analysis – in the drafts of scenarios for the case study
- Methods of causal analysis – in the drafts of scenarios for the case study

Czech manufacturing company, which I used for the scenario planning case study did not agree with its name being mentioned in my thesis. Data I was given were from the past, yet still delicate and confidential. This is the reason why I refer to the firm that I used for the case study only as to the company. Acquiring current data of any business proved rather difficult due to the strategic nature of such data and unwillingness to pass such a data out of any company. Although I made a verbal agreement with different company at the beginning of my research I was turned down on the cause of the ongoing credit crisis and internal problems. Financial statements used are attached in supplements section.

4. Literature Review

4.1. The Strategic Management

4.1.1. What is Strategy

If we are to define what is the strategy according to Henry Mintzberg we end up with fairly popular number of 5 and a letter p¹.

- a) Strategy can be seen as a **plan**, which is a set of directions leading us on way to achieve specified and desired results, a determined state in the future. This is the intended strategy.
- b) **Pattern** is the next way to view the strategy, when plan is about looking ahead pattern is about looking back, strategy is realized. Strategy is the repetitive parts of corporate behavior in past, Rolex sells expensive watches thus they are involved in a high end strategy. However there are also emergent strategies, ones that raised from the realized pattern that wasn't intended.
- c) Strategy can be also seen as a **position**. Alongside with Michael Porter it can be claimed that “Strategy is the creation of unique and valuable position, involving a different set of activities.”² That might be locating a product on a market, eg. McDonalds getting to breakfast market through Egg McMuffin.³
- d) **Perspective** can also act as a synonymous for the strategy. Perspective “looks in – inside the organization, indeed, inside the head of strategist, but it also looks up – to the grand vision of the enterprise.”⁴
- e) Lastly strategy can be perceived as a **ploy**. Strategy as the way to circumvent, deceive or outwit the competition or the opponent. Such strategy can be dated back to the Trojan Horse, Jacobs dressed in the

¹ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.

² PORTER, M. in MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.13

³ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.15

⁴ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.14

goat skin or it might have been Novell participating in the arbitrage against Microsoft or George Soros selling ten billion dollars worth pounds sterling.

This is how the strategy is defined, the quintessence that is perceived in the word.

4.1.2. Strategic Management Model

While the rest of my thesis deals mostly with the theories diverging from the neoclassical approach of rationality I have decided to include the work of prominent authors succumbing to the "rational paradigm"⁵ or to what Henry Mintzberg labels as planning school. While it is arguably opposing the theories and approaches I present later in the literature review as well as in the case study in many aspects it also serves as a very nice and understandable model of strategic management process. A Diagram 1 below taken from the book of Wheelen and Hunger⁶ presents a nice description of the information flow and analysis during creation of strategy and offers a systematic approach to the soft process of strategy creation.

⁵ Rational paradigm will be discussed later in the thesis in the review of Keese van der Heijden's three paradigms

⁶ HUNGER, J. D. - WHEELLEN, T. L.: Strategic Management p.244

STRATEGIC MANAGEMENT MODEL

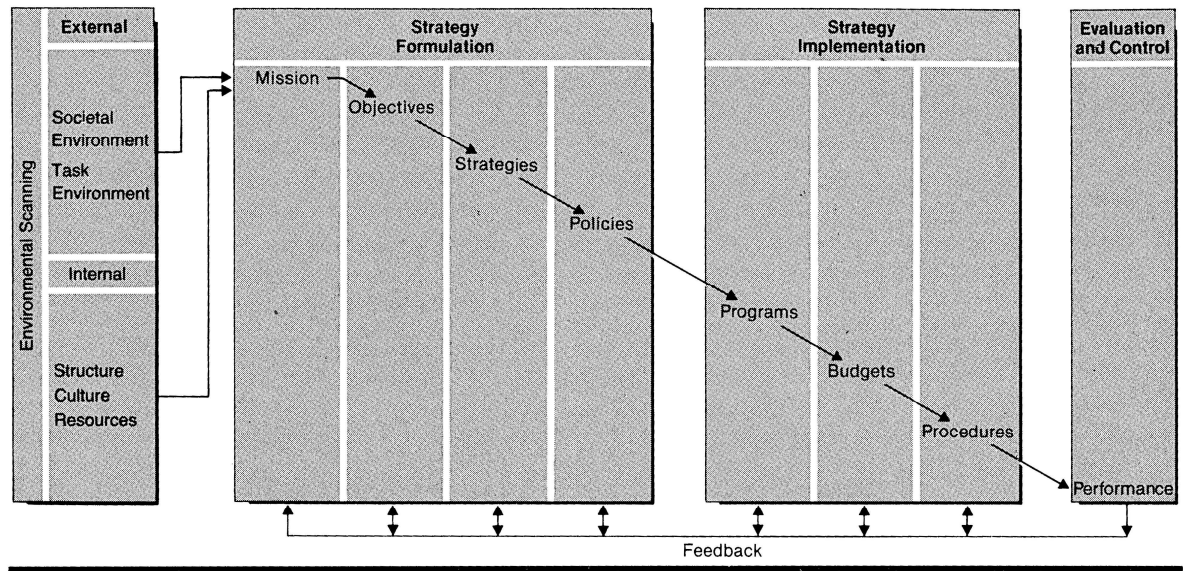


Diagram 1

They split the strategic management to four phases⁷:

- **Environmental scanning** that consists of analyzing both internal and external environment of the company
- **Strategy formulation** where mission statement like we want to be most praised brewery and the objectives such as attaining a certain market share are formed. Strategy, the way to attain objectives, is designed leading to design of policy that is putting the strategy into steps.
- **Implementation of strategy** follows. Questions like who will carry out the strategic plan, what must be done and how are answered. Strategy splits to: **Programs**, implementable measures the step by step instructions. **Budgets**, the financial planning for strategic plan and lastly procedures. **Procedures** are concrete measures based on programs that are limited by budgets.

⁷ HUNGER, J. D. - WHEELLEN, T. L.: Strategic Management p.7-12

- **Evaluation and control** is the last phase, performance is monitored and measures are taken to adjust it changing the above mentioned parts.

What is really important and can be seen on the diagram is that model assumes **feedback** in all its phases; corrections are made in every step not only during the final evaluation.

4.1.3. Ten Schools Of Thought

Henry Mintzberg Joseph Lampel and Bruce Ahlstrand made an effort to map the field of strategic management including all its significant theories in one book: The Strategy Safari. They synthesized and defined ten schools of thought. Book conveys a message that we are the blind and strategy is a proboscidean. Although this might sound strange at first, it turns into a nice metaphor. The allegory describes how ten blind men touch and feel elephant through their senses and although each is partially correct none has a complex idea of how that elephant looks. Correspondingly ten views of what the strategic management is or what are its integral parts are identified, each of them is scrutinized and its faults and weaknesses are identified.

Design School describes “strategy formation as a deliberate process of conscious thought”⁸. Strategy making is a **formalized skill** that has to be learned. The formation of strategy lies on the **chief executive officer**; he is the strategist together with the top-management. They should design, command and control. The rest of the organization and environment are relegated to minor roles, environment is assessed and the course is set suppressing the role of interaction. The strategy formation must be **simple and informal**. “The act of judgment”⁹ lies in between non conscious

⁸ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.29

⁹ ANDREWS in MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.31

intuition and formal analysis. The critique of the Design School can be summarized to four points:

- The assessment of strengths and weaknesses suppresses the learning.
- First is the strategy then comes the structure. Too precise directions act as blinders
- Explicit strategies can lead to inflexibility.
- Idea of detaching acting from thinking is didactic. Thought can sometimes precede action but often it has to go hand in hand with it so the thinker has a clear control over what is happening.

Design School is a feasible way only under certain conditions when a reorientation is needed and there are expectations of operating stability. Organization must be capable of coping with centrally articulated strategy and the strategist must have detailed and intimate knowledge of the situation in question.

The Planning School is largely based on the design school ideas, it stresses the plan produced by highly qualified planners. Basic planning models follow similar structure. First comes the **setting of objectives**. Goals in numerical form are described as objectives. The setting of goals is followed by stages of **auditing external and then internal environment**. In both cases it involves extensive decomposition to quantifiable data. Once the auditing is done the **strategy evaluation stage** proceeds. Strategies are developed or rather delineated from the data. Once the best strategy is picked it is passed to **operationalization stage**. Sub-strategies are developed from original strategy as well as long term strategic plan, medium-term plan, short-term operating plans and clear hierarchies. Once this is done the whole process is **scheduled** including all plans, budgets, subobjectives and programs.

What is of particular interest to my work are what authors of Strategic Safari refer to as recent developments to planning school. This consists of two fields that can be also seen as merging; scenario planning and strategic control.

Scenario planning is based on the idea that by speculating on possible scenario improves understanding of the future. Scenarios enable

management to share a **common view** on the world that somehow changed. Scenarios are also explicit enough to communicate those ideas to the rest of organization

Strategic control lies between strategic planning and financial control headquarters exercise over their subsidiaries. Some autonomy is left to lower levels of company or as Simons describes it: “formal, information based routines and procedures managers use to maintain or alter patterns in organizational activities”¹⁰ he comes with four levels of control: belief system (values, purpose direction), boundary systems (limits of action), diagnostic control systems (goal achievement and strategy implementation) and interactive control system.

Strategic Planning approach contains three fallacies.

- The fallacy of predetermination. Strategic planning needs to have a clear idea of the course of the environment otherwise the strategic plan is rigid and ineffective way to troubles.
- The fallacy of detachment. Managers are detached from the routines “down below” and decide only on the basis of compressed data.
- The fallacy of formalization. Strategic planning is based on creating strategies through formalization. A formal system operating hard data can hardly internalize them, synthesize them and comprehend them.

Positioning School can be identified by its focus on strategy content. The true rise of the positioning school can be attributed to the 1980 Michael Porter Book Competitive strategies although similar thoughts can be traced back to earlier times.

Positioning School premises can be summarized as seen below:

- i. Strategies are generic, specifically common, identifiable positions in the marketplace.
- ii. That marketplace (the context) is economic and competitive

¹⁰ SIMONS in MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.61

- iii. The strategy formation process is therefore one of selection of these generic positions based on analytical calculation.
- iv. Analysts play a major role in this process, feeding the results of their calculations to managers who officially control the choices
- v. Strategies thus come out from this process full blown and are then articulated and implemented; in effect, market structure drives deliberate positional strategies that drive organizational structure.¹¹

Milestones of the Positioning School lie in the concepts of Michael Porter. Competitive Analysis identifies five **forces in the environment** of the organization.

- Threat of substitute products and services
- Threat of New Entrants
- Bargaining Power of Firm's Suppliers
- Bargaining Power of Firm's Customers
- Intensity of Rivalry Among Competing Firms

Each of those forces might drive the firm to adopt a particular strategy and Porter claims that only three **Generic Strategies** are viable in a long term.

- *Cost Leadership*, that is attaining lowest costs on the broad market segment
- *Differentiation* based on creating a unique product or service using customer loyalty on the broad market segment. Like Apple did with iPhone.
- *Focus* on the narrow market segment. Either a Differentiation Focus or a Cost Focus

Positioning School is rather an analysis aiding the process than a true strategy creation process. The supporting role of positioning school is highly significant as it can open new fields and lead to broader perspectives than ones that are favored through its hard data reliant detached analysis.

¹¹ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.85

The Entrepreneurial School sees a strategy formation as a visionary process. It is significant through identification of proactive nature of strategy formation and roles of personalized leadership and strategic vision. This approach seems far too individual and finding a new visionary leader can turn troublesome. Reliance on “visionary” obstructs learning and questioning of future steps through blind obedience. It can be said that visionary organizations usually survive visionary leaders. This very entrepreneurship-centric approach is needed in specific cases. Small organizations, local vendors and manufactures prove to approach strategy in this way being fairly successful. The must-grow doctrine is often rooted in the organizations falling under this school.

The Cognitive School portrays the strategy creation as a mental process. We all know that strategy formation is a cognitive process and such approach brings attention to variance in cognitive styles of strategies. It implies world is too complex to understand so strategists must be creative to build their own world and act it out. Better understanding of human mind than leads to better understanding of strategy formation, which is surely true but doesn't give much hints about creating the strategy.

The Learning School sees a strategy as an emergent process. Having no strategy just rely on learning might turn lethal as well as turn from or losing viable strategy in spite of learning. Learn a wrong strategy might also be troublesome. Sometimes there is a need for collective learning. Uncommon, unfamiliar and unusual situation often needs learning where the late credit crisis serves as a nice example. This school of thoughts centers on learning across the organization, learning from environment and learning organization itself. It isn't as prescriptive as the ones above; it is concerned with what organizations really do not what they should do. And “perhaps it is the playful who finally inherits the earth.”¹² The main message of this school

¹² MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.230

is to try variants before finding the right one and encouraging others to do so until strategy emerges.

The Power School stresses the role of negotiation. It perceives strategies as emergent positions and ploys shaped by power and politics. Macro power approach stresses the promotion of welfare through cooperation and control in a network. Micro power approach focuses on short term relationships bargaining and political games in shifting coalitions without long term stability. Political games described by power school are interactions between individuals or collectives played for the participants benefits. Politics and power are overstated relegating other important factors. Major changes shift power relationships and flux prevents cooperation.¹³ The Power School contributes with its vocabulary, in cases where status quo has to be broken despite the malevolence of established actors. Politics can also act as a resistance factor to strategic change.

The Cultural School suggests that strategy formation is a collective process. Organizational culture, belief system and shared values are examined. Strategic advantage is seen as uniqueness. It links the dynamics of strategy to dynamics of culture stating that huge change of strategy leads to the “cultural revolution”.

The Environmental School explains strategy formation as a reactive process reflecting the changes in environment. Leadership becomes passive ensuring proper recognition of environmental changes and correct adaptation to those changes. Organizations reside in niches until their extinction due to lack of resources. Environment is constantly changing from one type to another and even in a given environment company can adopt less or more beneficial position. The biggest fallacy is the premise that there is no

¹³ MINTZBERG, H. - LAMPEL, J. - AHLSTRAND, B. Strategy SAFARI p.261

real choice for an organization just a need to act in certain way according to an environmental imperative.

The Configuration School identifies the transformation as a key to understanding the strategy creation process. Organization has some stable configuration of structure relating to context and in turn giving rise to a set of strategies. There are periods of stability and periods of changes, where the configuration is changed, those might occur in patterns. The job of strategic management rests with maintaining stability or adaptable change and when the time comes manage the disruptive transformation process without destroying organization. Strategy making can be based on any of previously described school, will it be formal planning, collective socialization or simple response to an environment. All those are configurations. Resulting strategies can take up the form of patterns, positions, perspectives, plans and ploys. Configuration approach can be criticized as its flawed vision of the world, but which vision isn't flawed. Lumping of the organization and its world to more comprehensible pieces enables the better understanding, we can see the pieces of the reality that we set up to a configuration in order to make a sense of it. The innovation is what lies on the edges of these lumps, where there isn't any neat configuration. That is where a trouble with configuration can possibly arise. Configuration makes a good servant but also it can make equally bad master preventing managers to see the complexity and hardly categorized contexts.

4.1.4. Paradigms of Strategic Planning

Kees van der Heijden recognizes three groups of paradigms or if one likes schools that can describe the decision making process of management¹⁴.

¹⁴ VAN DER HEIJDEN, K. Scenarios p.21-50

rational school / paradigm

evolutionary school / paradigm

process school / paradigm

The rational school is centered around the homo economicus concept based on full predictability of future, the rational choice theory. **Homo economicus** can calculate the effects of every option of a choice he faces. He optimizes, picks the best variant that he is then able to put into effect. Such a decision making is feasible only in the case that environmental development is clear and predictable and managers are deciding with an aim to maximize profit.

Such a model of decision making still remains in the heads of some management up till now. Even though the probability of environmental change is included in the calculations and multicriterion evaluation, it is still the approach where the assumption of **predictable future** and computable decision plays a decisive role.

The premise of **continuity**, the idea we can derive, induce or deduce the future from the past, forms the basis for this school. If there is a continuity then the optimal variant or at least a suboptimal variant can be found.

Search for optimal variant in the case when the decision making is based on several criterions, some being of qualitative nature, turns troublesome.

Frequently used methods of multicriterion decision making do not step out from rational school limitations shadow.

Prognosis based on past suit only the continual strategic planning environment. Probability environmental development models are also models based on the past. Such prognosis fail once sudden and major changes occur (oil crisis, global credit crisis, technological breakthrough)

Adaptation to changing conditions poses far bigger troubles to large companies. According to Mintzberg¹⁵ once the large companies find the successful directions or process leading out of crisis will it be by invention or

¹⁵ VAN DER HEIJDEN, K. Scenarios p.28

creation of new business niches they immediately follow and develop them intensively. Company starts to develop only some of its strengths and its attention narrows until a new critical situation, often caused by the decrease in interest in its products or services, comes. He assumes that such process cyclically repeats in large companies.

That is why companies should adopt more flexible approaches to their perception of future. Scenario planning and analysis offers such an approach.

The evolutionary school gradually develops with management's understanding of limits to modeling anticipation, strategic planning as such and application of rational approach in these cases. H. A. Simon defined the principle of bounded rationality, that under the conditions of complex decision making process and we can surely count in the strategic decisions, manager does not optimize, he is rather “**satisficing**”¹⁶ - reaches for the variant satisfying few constraints, often the first one that satisfies.

“What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the overabundance of information sources that might consume it”¹⁷

B. Quinn hit off this approach:

“The full strategy is rarely written in any one place. The process used to arrive at the total strategy is typically fragmented, evolutionary, and largely intuitive. Although one can frequently find embedded in these fragments some very refined pieces of formal strategy analysis, the real strategy tends to evolve as internal decisions and external events flow together, to create a new, widely

¹⁶ SIMON in VAN DER HEIJDEN, K. Scenarios p.56

¹⁷ SIMON in VAN DER HEIJDEN, K. Scenarios p.32

shared consensus for action among key members of the top management team”¹⁸

Mintzberg observed that managers

- Prefer verbal over numeric information.
- Prefer conversation to reading.
- Gather information on an anecdotal basis.
- Are highly mistrustful of others’ general theories
- Avoid the “grand design” sort of decisions
- Prefer to make smaller incremental decisions
- Let the overall strategy emerge ¹⁹

The process school assumes that if optimal alternative can be neither found nor realized, it is possible to create such conditions for strategy planning in the company, where managers are able to **learn**, flexibly **adapt** the strategic planning process to new conditions and so change it to improve the chances for success in the future.

4.1.5. Quality of strategy

Basic dimension, nature, and design of formal strategies should include²⁰

- 1) Effective formal strategy – three elements essential for Quinn
 - a. important **goals** to be achieved
 - b. significant **policies** guiding or limiting action

¹⁸ QUINN in VAN DER HEIJDEN, K. Scenarios p.32

¹⁹ MINTZBERG in VAN DER HEIJDEN, K. Scenarios p.32

²⁰ MINTZBERG, H. - QUINN J. B. The Strategy Process p.8

c. **action sequences** (programs) – accomplishing goals within limits

- 2) **Few concepts** and thrust lie in the heart of strategy, providing it with **focus, balance and cohesion**. Those might differ in time span and resource costs, still **resources** must be allocated to support whole thrust structure, else the strategy fails.
- 3) **A strong position** “a posture”²¹ must be build so organization has a good chance to achieve its goals despite the unpredictable, unforeseeable and unknown factors coming to play.
- 4) Strategies should form **complex and hierarchical systems** accounting to one general strategy.

Criteria for a successful strategy²² can be described as:

Clear, decisive objectives

Goals must be decisive and well understood. Their achievement shall lead to the viability and vitality of organization in the competitive environment.

Maintaining the initiative

Strategy should set pace, enhances commitment and set course of event rather than react to them. Still there must be a space for freedom of action. Prolonged reactive approach brings about the chaos, unrest and decrease in morale, initiative is lost to the opponents. Costs are increased and number of options decreased.

Concentration

Strategy should concentrate power at a time that is likely to be decisive. It should define the superiority of business, its distinctive competencies.

Flexibility

The space to maneuver must rest within the head of strategist or strategists. The flexibility is a competitive advantage and the organization must be prepared to be flexible.

²¹ MINTZBERG, H. - QUINN J. B. The Strategy Process p.8

²² MINTZBERG, H. - QUINN J. B. The Strategy Process p.9

Coordinated and committed leadership

Acceptance is not a sufficient characteristics of a leader. Leader must be committed to his role through his values and interests.

Surprise

Strategy can employ tools that hit competition unexpectedly, surprise can provide a decisive change in strategic position.

Security

Strategy should aim at securing resources needed for the operation of enterprise. Information system shall be devised to minimize the possibility of being taken by surprise from opponents.

4.2. Scenario planning

4.2.1. Learning Loop

Kees van der Heijden explains scenario planning through “learning loop” understood as an integrative model of learning²³.

Learning loop roots in the following set of ideas:

- Every subject owns a set of experiences some being of importance for us. By the rule we are interested in new pieces of knowledge we perceive as related to our past doings.
- We analyze such new pieces of knowledge in the context of their causal relationships. We develop theories about an extent to which our current ideas of the world (mental models of the world) have to change in the light of new pieces of knowledge, picking up such that extend, supplement and complete our model of world perception.
- We use those “theories” to create plans of our activity and their following implementation verifying and checking the follow ups and effects of this “theory” in novel situations.

²³ VAN DER HEIJDEN, K. Scenarios p.37

- We acquire new experiences, usually they fit our expectations only partially so we repeat the previous cycle

The process of our mental model development can be seen on the picture below

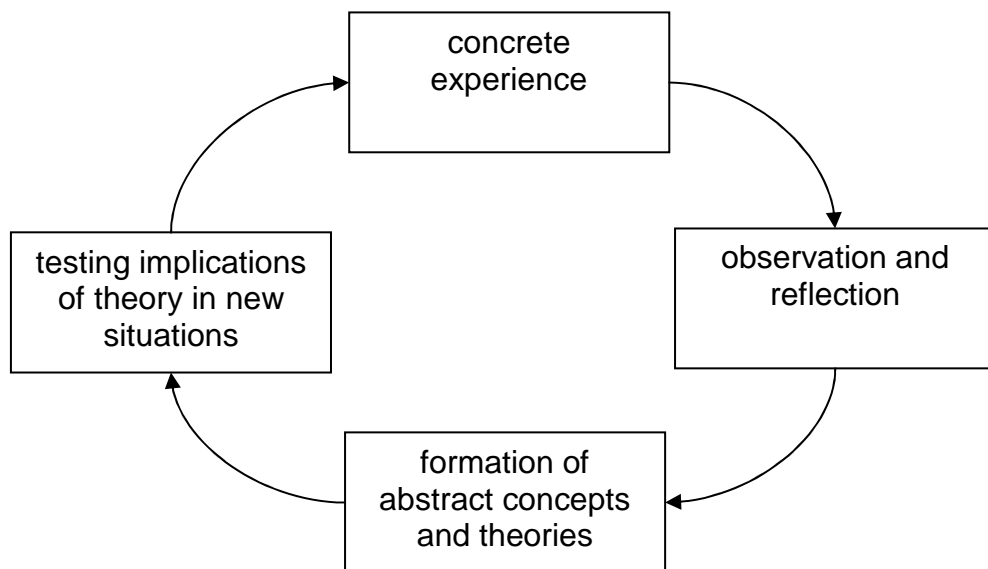


Diagram 2 – Kolb’s learning loop²⁴

4.2.2. Scenario-based planning

The benefit of scenario based planning splits to benefit for the individual (employee) of an organization participating in the process as well as benefit for the organization for which planning is prepared.

“At the individual level:

- As a cognitive device: A set of scenarios is a highly efficient data organization tool. It creates structures in the events/patterns in the

²⁴ VAN DER HEIJDEN, K. Scenarios p.33

different bits of information a mutual context, thereby making the cognitive aspects of any situation more manageable to deal with.

- As a perception device: As individual people see certain things and overlook others, based on their existing mental models and resulting expectations. The scenario process expands the mental models of participants and increases the range of what they see,
- As a reflection tool: The scenario process helps people think through more effectively ideas generated in the strategic conversation. It brings in new perspectives from the outside world.

At the group level:

- As a ready made language provider, assisting the strategic conversation across a wide range of (even partly conflicting) views: The process allows diverse views to be considered. It identifies irreducible uncertainty. It provides room for multiple interpretations.
- As a conversational facilitation vehicle: Scenario-based planning provides an organized way of discussing relevant aspects of the business in an organizational context. It taps into knowledge available in the individual members of the organization.”²⁵

Firstly it must be highlighted that creative invention is the essence of strategy. Scenario planning can only be a tool contributing to the inventive environment at its best, but can never serve on the place of managers own invention.

Organization is understood as a system with functional feedback loop, a system capable of learning and developing.

The approach of strategic planning lies in three basic questions “what are we doing”, “what could we be doing” and “what should we be doing.”²⁶ First

²⁵ VAN DER HEIJDEN, K. Scenarios p.49

²⁶ NORMAN in VAN DER HEIJDEN, K. Scenarios p.54

questions relates to the organization and stresses the importance of analysis focused into the inside of the company, uncovering its strengths and weaknesses. Second question is focused on the environment in which the organization functions. Environmental analysis should be focused on prediction of possible future needs in the surroundings of the organization (its potential customers, stakeholders). This is not about current demand and needs; it's a difficult prediction of future needs, which may differ from the current ones significantly. An answer for the last question is how and to which extent is the organization capable of reacting to future needs in the environment and how to fulfill this demand so it will bring enough of resources needed for the survival of the organization.

4.2.3. Business Idea

A trouble can be identified within many profitable organizations; often they are only going along and improving their current procedures. They simply continue within the boundaries of their current business model, being unprepared to see new opportunities. Such approach does not create **environment for invention** of original business ideas. It is a possible reason for downward tendency or even downfall of formerly successful organizations resting within narrow niche of their **original business idea**. It is the "Business-As-Usual"²⁷ mental model with narrow vision and answers being prejudiced before the questions were asked. Business idea is getting less and less lucrative as competition strengthens. Most of those companies are well aware of "the big unarticulated issue" as Peter Martin calls it²⁸ that is ripening in their environment. It can either be a threat or a missed opportunity in unrecognized business idea. Problem is usually way different from the business as usual model of organization, so its hard to cope. Premature anticipation of future may turn loss making as much as late reaction. IBM lost a huge segment of market by underestimating the demand

²⁷ VAN DER HEIJDEN, K. Scenarios p.56

²⁸ MARTIN in VAN DER HEIJDEN, K. Scenarios p.56

for personal computers and mainly their software while Microsoft took an opportunity. Henry Ford was very successful with an idea to manufacture reliable and affordable car, then he missed the fact that needs of customers started to branch and a demand for different types of automobiles arose. If an organization has a business idea it wants to execute when and where are important questions. When evaluating a business idea following criteria should be considered:

- The value for the society and customer
- If there are resources needed for execution
- If the execution of an idea enables not only the survival but growth of an organizations or increased profits.

The disposal of sufficient resources and knowledge is a key presumption for execution of organization's business idea. Every organization willing to prosper and grow should create resources from its profits in the times of prosperity. Organization should build on knowledge and abilities acquired through past functioning. Those are mainly high-quality research and development, know-how of the company, brands, patent, licenses, royalties, high quality management and distribution channels.

A scheme below describes the implementation of scenario planning into the strategic planning.

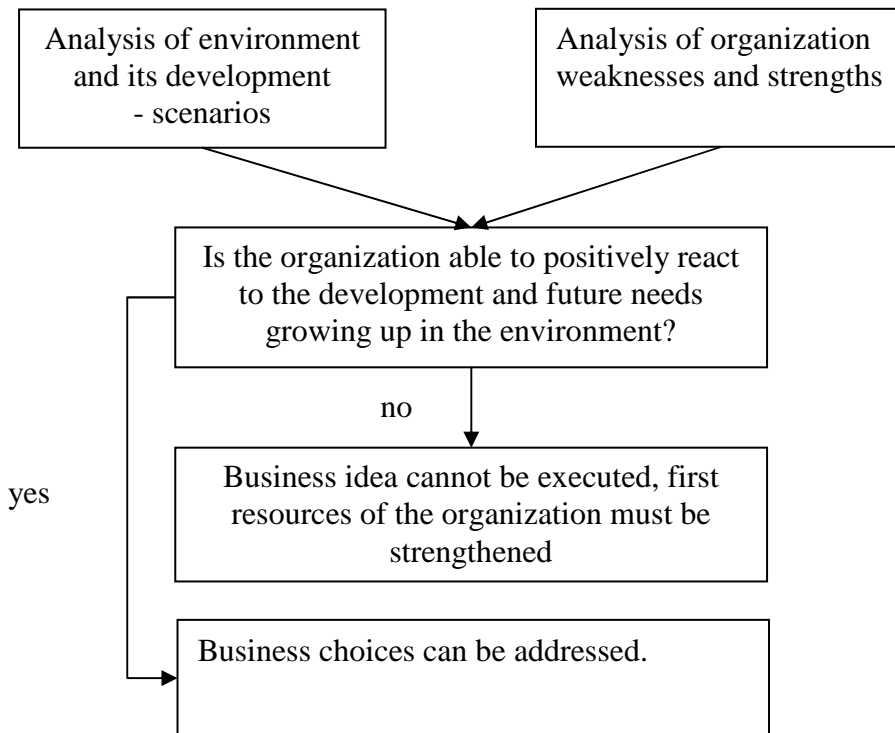


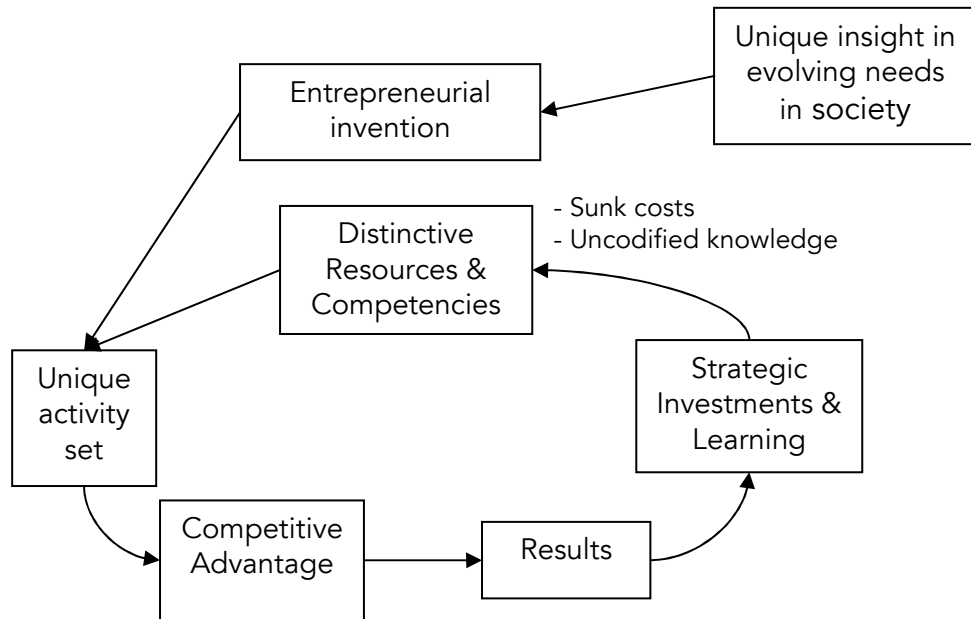
Diagram 3²⁹

Business idea and its realization must fulfill following conditions:

- create the value for customer and organization
- organization attains competitive advantage through its execution
- organization uses its unique capabilities competition cannot employ
- generated resources enable the growth of company

Following diagram of Keese Van Der Heijden (Diagram 4) depicts repetitive cycle of business idea execution. Diagram consists of individual variables and their connecting lines – causal bonds depicted by arrows. It is a diagram of causes and effects. If the variable begins with a minus sign it refers to costs or knowledge that are connected solely to the particular business idea and cannot be used elsewhere, if the variable doesn't begin with any sign it will grow after every cycle.

²⁹ Adapted from VAN DER HEIJDEN, K. Scenarios p.62



Sunk costs eg.: single purpose investments
Uncodified knowledge eg.: processes introduced and bound to one business idea

Diagram 4 ³⁰

If proper in-time identification of needs meets with entrepreneurial invention and distinctive resources, business idea can be executed successfully. Such business idea shall ensure the competitive advantage that in turn provides the sufficient profit. Profit can be used for investments, improvement of knowledge and so the increase in production or improving the quality of product or service. Successive repetitions of the cycle leading to abundance of resources enable the growth or strengthening of the company. Kees van der Heijden calls this process the reinforcing feedback loop.

Successful business idea, being at the heart of organization's strategy, needs the permanently inventive internal environment and unique capabilities of the organization. As the strategy, the execution of business idea, is focused to distant future it must concern itself with uncertainty of environment.

³⁰ VAN DER HEIJDEN, K. Scenarios p.75

Tool used to scan environment for needs must:

be able to approach the uncertainty.

be able to consider multiple developments of environment and possibilities for business idea.

be able to combine the knowledge from several areas and systematically characterize different stages and developments of future.

Scenario planning fits those constraints, including not only risk but also uncertainties. Concept of uncertainty can be split to three categories³¹:

- Risks, where known history enables us to estimate the probability of its occurrence
- Structural uncertainty represents unique event that can be partially estimated by chain of causal bonds, however we are denied an estimate of its likelihood.
- Unknowables, we cannot even imagine the event. Without having a clue of what these events could be, we have a past experience of many such events occurring.

Uncertainty grows, further we look into the future. Events are almost predetermined and the uncertainty connected to them is minimal in the short term. As the time horizon stretches further predictability decreases and uncertainty increases. This can be illustrated on the Diagram 5.

Future is split into three parts. First one labeled “F” is the area of high probability fit for forecasting, the area “S” favors scenario planning with a level of predictability but also considerable uncertainty. Last area is “H” for hope as there is nothing else left with the high level of uncertainty and very low probability.

³¹ VAN DER HEIJDEN, K. Scenarios p.93

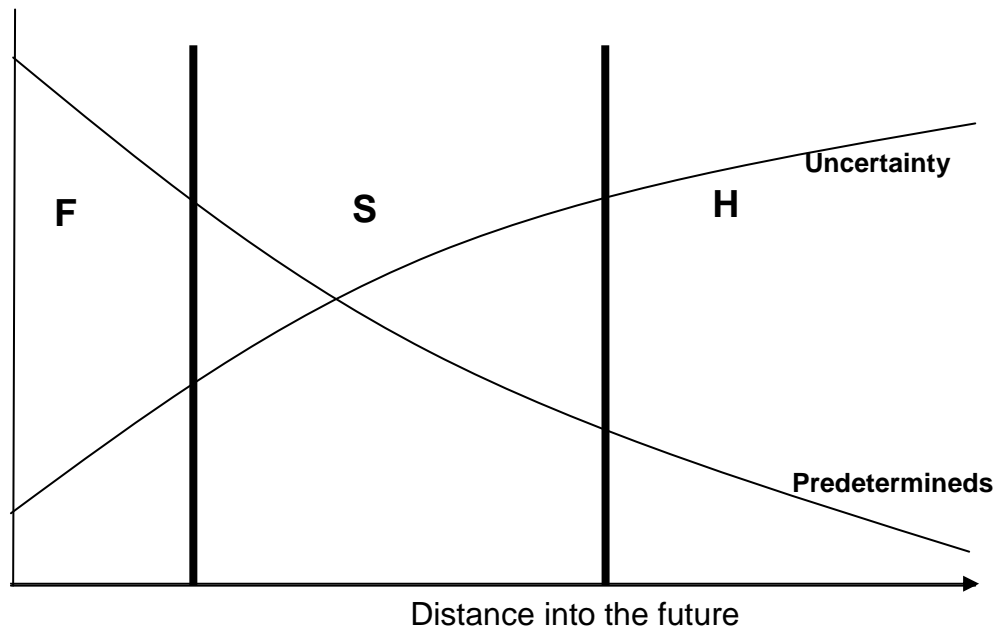


Diagram 5 from VAN DER HEIJDEN, K. Scenarios p.98

Business environment is significant for its uncertainty and after all the whole idea of entrepreneurship implies that if you are to do business you must take your chances. Strategic management of an organization can be understood as a taking an opportunity while being uncertain about the future development of its complicated environment. The predictability and uncertainty are the essences of organizational environment. There are many factors with various levels of uncertainty around and attention must be paid to such that might exert a distinct influence on the organization.

Scenarios are internally consistent and demanding descriptions of likely future, including both competitive and general environment.³² Those descriptions represent different future states and should always stay value-neutral. The environmental development cannot be significantly influenced by the organization, while organization can be influenced by the environment. Scenarios portray various feasible future states, denoted as states of world in

³² Heijden labels them transactional and contextual respectively.

the game theory, and organization should try to be as successful as possible in any of those.

Uncertainty classed as risk can be estimated through its past development assuming its pattern will continue to the future. Probability apparatus is employed with its characteristics like mean, median and mode. It is the imaginable risk and its predictability decreases with increasing time span. Structural uncertainty is the possibility to explain the future development through various ways – there are diverse structures of causes and effect explaining the environment. We can view the future in an equally diverse manner, depending on which structure we adopt. That is why the probability of occurrence stays unknown. On comparing, there is an assumption that all those are of equal likelihood. That is why many possible futures should be taken into the consideration.

If some aspects of future state are determined, scenario planning should encompass both those “knowns” and the uncertainty. If we consider some developing countries, we might state that the numbers of their inhabitants will almost certainly triple or even quadruple in 40 years. We can also assume their systems of agricultural management and production non-viable and unsustainable. We can predict that this will lead to the crisis and unexpected events, however we can hardly predict which system of agricultural management will be adopted once the time will come.

Scenarios are based on the assumption of unpredictable future containing irreducible uncertainty, which we cannot decrease by analyzing past data or other approaches. There isn't any “best reaction” to uncertainty; still the structure of cause and effect can be described. Scenario planning is beneficial in creating new original perspectives to the basic structure of the environment. They aid to the creation of strategy respecting structural uncertainty of environment. As Kees van der Heijden puts it scenario help in dealing with uncertainty in three distinct ways:

- “They help the organization in understanding the environment better, allowing many decisions to be seen not as isolated events but as part of a process of “swings and roundabouts”. In this way scenario-based planning helps managers to avoid undue conservatism, by allowing “calculated” risk taking.
- Scenarios put structural uncertainty on the agenda, driving home to the organization what sort of “accidents are waiting to happen”. In this way scenario-based planning helps managers to avoid taking undue chances.
- Scenarios help the organization to become more adaptable by expanding their mental models of the business environment and thereby enhancing the perceptual capabilities needed to recognize unexpected events and take proactive action.”³³

³³ VAN DER HEIJDEN, K. Scenarios p.111

5. Own input:

5.1. Scenario planning case study.

On the basis of both verbal and literary documentation I processed an example of possible scenarios, related to the manufacturing diversification in the year 1999. Balance sheets and income statements were acquired from register of companies.

5.2. Characteristics of company and its manufacturing processes

The company started in the year 1994, metallic constructions of seats for car manufacturing monopolist formed majority of manufacturing activities. The system primarily consisted of tube and wire program, tubes and wires were bended on the special bending machinery and then welded on the automated welding machinery. Finished construction had protective coating applied on them on the paint line.

Metallic constructions were not directly supplied to the automobile manufacturer; they were supplied through a different company, a major supplier of car manufacturer. Company still continues in the production of metallic constructions.

Company expanded in 1997, buying a manufacturer of exhaust systems and car catalyts, a supplier of the previously mentioned car manufacturer.

Technology of the exhaust system manufacturing runs in production lines where alloy steel plates are rolled and welded.

Company was firmly bound to its customer through its operating activities. Car manufacturer was checking and supervising over the manufacturing technology, methods of quality control and even the cost calculations of supplied products.

Company had to verify its ability and capacity to supply its products to car manufacturer by regular and rather expensive audits done by an external auditor.

5.3. Company's Economic Situation

Company was expanding ever since it started and step by step it affirmed its position. Its assets quadrupled from 1994 to 1999, **profits** grew by 2.7 times. In the year 1999 company paid its liabilities and in 1998 it increased its basic capital from 200,000 CZK to 200,000,000 CZK.

The **rate of equity to total assets** grew from 23% in 1995 to 45% in 1999.

Return on Assets in 1999 was very good at 7%, Return on Equity being 15.4%

The **liquidity of company** was at a very good level for the whole time, **cash ratio** proves that company withheld far too great amounts of money in cash register or on bank account.

The **labour productivity** stayed above 1,700,000 CZK per worker from 1995 to 1999.

Main facts from Balance Sheets in years 1995 - 1999

	1995	1996	1997	1998	1999
TOTAL ASSETS	292 314	442 003	800 536	1 120 267	1 170 460
INTANGIBLE AND TANGIBLE ASSETS AND INVESTMENTS	127 033	271 641	312 937	546 954	603 018
INTANGIBLE ASSETS	452	338	3 575	4 096	3 457
TANGIBLE ASSETS	126 581	186 984	242 463	273 236	272 596
FINANCIAL INVESTMENT	0	84 319	66 899	269 622	326 965
CURRENT ASSETS	164 227	165 575	466 474	533 484	517 941
INVENTORY	33 437	38 203	121 553	208 932	131 278
RECEIVABLES	122 413	104 170	178 509	242 883	239 150
FINANCIAL ACCOUNTS	8 377	23 202	166 412	81 669	147 513
OTHER ASSETS AND DEFERRED CHARGES	1 054	4 787	21 125	39 829	49 501

	1995	1996	1997	1998	1999
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TOTAL EQUITY & LIABILITIES	292 314	442 003	800 536	1 120 267	1 170 460
EQUITY	68 286	169 671	289 681	444 753	526 358
BASIC CAPITAL	2 000	2 000	2 000	200 000	200 000
CAPITAL FUNDS	67	67	67	67	67
FUNDS CREATED FROM PROFIT	99	240	240	240	10 240
RETAINED EARNINGS	1	65 579	157 364	69 374	234 823
PROFIT AND LOSS OF CURRENT ACCOUNTING PERIOD	66 119	101 785	130 010	175 072	81 228
LIABILITIES	220 682	268 580	504 826	620 260	637 315
RESERVES	25 009	35 176	94 340	226 753	310 710
LONG-TERM LIABILITIES	0	0	0	0	0
SHORT-TERM LIABILITIES	106 912	120 632	256 149	246 338	267 511
LONG-TERM BANK LOANS	88 761	112 772	154 337	117 314	723
SHORT-TERM BANK LOANS	0	0	0	29 855	58 371
OTHER LIABILITIES-TEMPORARY ACCOUNTS OF LIABILITIES	3 346	3 752	6 029	55 254	6 787

Main facts from Income Statements in years 1995 - 1999

	1995	1996	1997	1998	1999
REVENUES FROM GOODS SOLD	0	0	1 941	3 161	59 521
COST OF GOODS SOLD	0	0	1 736	2 891	51 796
GROSS MARGIN	0	0	205	270	7 725
REVENUES FROM FINISHED PRODUCTS AND SERVICES	508 073	594 253	1 588 300	1 705 662	1 320 907
CONSUMPTION FROM OPERATION	309 861	370 020	1 110 795	1 150 110	926 346
VALUE ADDED	198 212	224 233	477 710	555 822	402 286
PERSONAL EXPENSES	43 139	45 965	130 319	147 534	146 449
AMORTIZATION O INTANGIBLES AND DEPRECIATION OF TANGIBLES	24 100	18 242	55 028	52 151	61 260
NET OPERATING RESULTS	121 288	159 099	246 727	240 846	92 593
NET RESULT FROM FINANCIAL ACTIVITIES	-12 459	-1 100	-32 954	19 410	13 519
INCOME TAXES ON NORMAL ACTIVITY	43 882	55 981	79 531	92 108	41 887
NET RESULT AFTER TAXES FROM ACTIVITIES	64 947	102 018	134 242	168 148	64 225
NET RESULT AFTER TAXES FROM EXTRAORDINARY ACTIVITIES	1 172	-233	-4 232	6 924	17 003
NET INCOME (NET LOSS) FOR THE ACCOUNTING PERIOD	66 119	101 785	130 010	175 072	81 228

As apparent from the above facts the company was growing since its start. Its chief executive officer was well aware that the time of growth is also the best time for expansion.

5.4. Strengths and Weaknesses

Strengths

- high quality management
- modern technology including the paintshop, welding robots, metal-working machinery
- qualified labour
- own research and construction
- sufficient equity capital

Weaknesses

- huge dependence on one customer, both manufacturing programs the metal seat construction and exhaust systems and catalyst had only one customer, company was dependant on the demand from that customer.
- huge dependence on single supplier of alloy steel plates for exhaust system, as there was only one feasible supplier for one of its manufacturing programs management was facing a two sided dependence.

5.5. Diversification

The company was not in the ideal position when it was considering the diversification. On the one hand it was profitable on the other hand it relied on the two companies. The management tried to decrease the reliance on the alloy steel plates supplier through investing in it. This attempt failed however

the company reached a long-term contract with its supplier improving its position slightly.

On the other hand company was still utterly dependant on its customer for the metal constructions. Sales were ensured contractually however there was a huge reliance on the production of the customer and if the of car manufacturer production decreased significantly it will influence the production of the company and it could even lead to the losses

Company had a high quality management, namely its chief executive officer, who was aware of those pitfalls and tried to find a possibility for diversifying the production in order to decrease the almost absolute dependence on what customer.

Two possibilities were in front of the chief executive officer at a time:

Extend sales of its metal seat constructions and exhaust systems to other car manufacturers. This proved difficult as there was little interest from other manufacturers and importantly such an option was linked to the high-priced audits demanded by automotive business customers – car manufacturers are trying to transfer part of their costs to their suppliers.

Find a new manufacturing program based on the current resources of the company namely its technologies of bending, welding, pressing and finishing. Such product should enable the company to penetrate the market quickly with relatively small investments to the new machinery capable of such production.

5.6. Business Idea

Production analysis of manufacturing possibilities and future market needs was performed and three options of production programs were found.

Manufacturing of garden tractors, sports buggies and children bobsleighs. All those manufacturing possibilities had shared characteristics of employing current knowledge and technology only additional investment needed was the plastic press machinery. This suited the original assumption of low entry barriers.

Sales of those three potential products could not have been taken for granted. Czech market for both sport related programs of bobsleighs and buggies were fairly saturated at a time.

The business idea of garden tractors seemed promising at a time, survey of Czech market indicated that the demand for garden tractors will grow in near future.

Chief executive officer of the company managed to acquire a connection with Canadian producer who was willing to supply the Czech company with manufacturing documentation. Canadian company also contractually committed itself to buy 80% of the Czech company garden tractor production for next few years.

Company started to extend its research and development office in the primary plant preparing for the possible research and development related to the garden tractors once their production will be running.

Company acquired another manufactory going out of business near to its primary plant, to use it as storage facility and once it will be needed as a plastic works with plastic press machinery for the tractor bodies.

Acquiring a loan for investment in third manufactory and needed machinery wasn't difficult with respect to the good business performance in past. Part of the machinery was acquired through leasing.

I used the analysis of the above data and knowledge about the process of diversification to create the draft for scenario creation associated with identifying the best production program for the company which will aid to significant diversification. I depicted causal relations and their course on the following diagram.

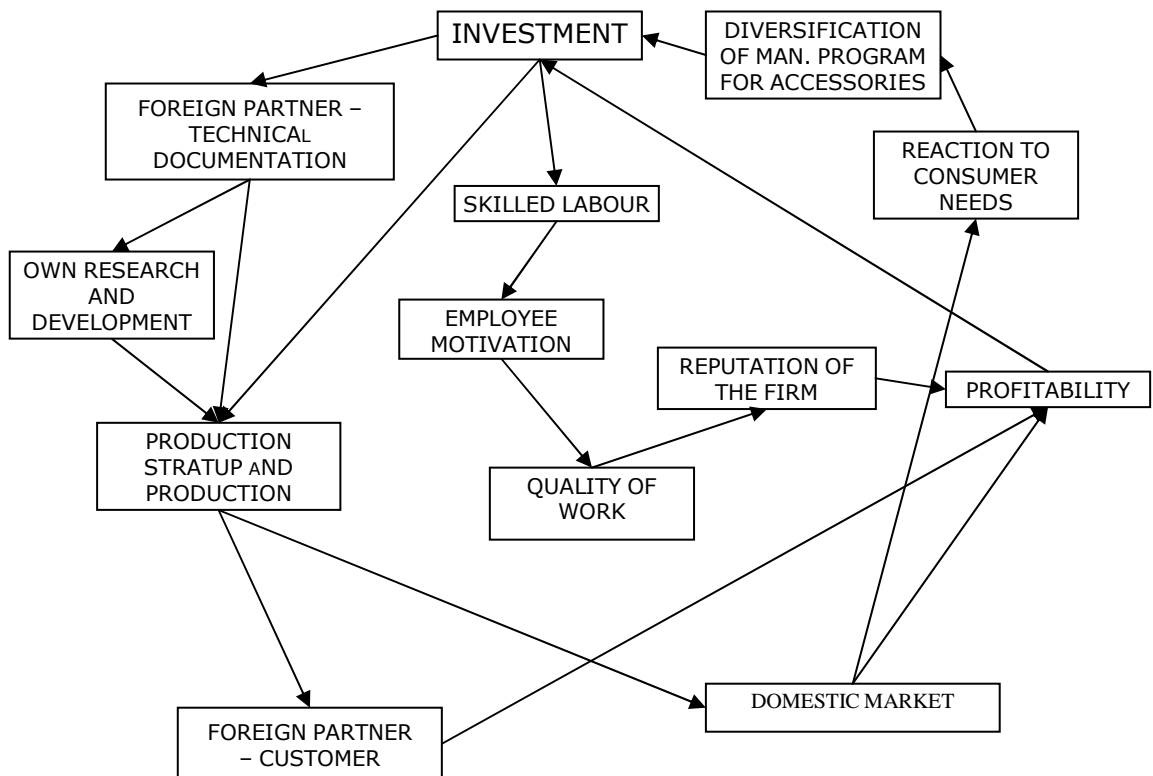


Diagram 6 – Business idea on the cause and effect diagram

I concluded the study with four possible scenarios describing the environment of the company including uncertainties related to the company, namely likelihood of succeeding in: production of tractors, research and development of tractors and their accessories. All scenarios should be treated as of same likelihood due to the uncertainty in the environment.

I processed those scenarios into tables for the sake of lucidity.

Scenarios are done for the horizon of year 2010 assuming ten year outlook that fits with what Heijden describes as structural uncertainties.

5.7. Scenarios

Scenario no.1 – horizon 2010

DEVELOPMENT	COMPETITIVE STRENGTH ON DOMESTIC MARKET	DEMAND ON DOMESTIC MARKET	AVAILABILITY OF NEEDED INVESTMENTS	PRODUCTION QUALITY	DEVELOPMENT OF CZECH ECONOMY
DEVELOPMENT DISCONTINUED	LOW	LOW DEMAND	OWN RESOURCES	GOOD	3% ANNUAL GROWTH

Production will be running according to the provided documentation. The quality of products would be high with no development done. The majority of production will be sold to the foreign partner. There would be a demand for cheaper walk demand mowers instead of tractors. The production would be only slightly profitable.

Scenario no. 2 – horizon 2010

DEVELOPMENT	COMPETITIVE STRENGTH ON DOMESTIC MARKET	DEMAND ON DOMESTIC MARKET	AVAILABILITY OF NEEDED INVESTMENTS	PRODUCTION QUALITY	DEVELOPMENT OF CZECH ECONOMY
DEVELOPMENT FAILED	LOW	LOW DEMAND	OWN RESOURCES AND LEASING	GOOD	5% ANNUAL GROWTH

Production runs according to the documentation and orders of foreign partner. All production is supplied to the foreign partner for five or six years, then the partnership will cease to exist as Canadian company shifts its production to China to cut costs. Market was dominated by tractor lawn mowers with accessories and as the company failed to develop its own models and accessories there is only a small demand for its products disadvantaged against the competition. Production will be slightly profitable

Scenario no.3 – horizon 2010

DEVELOPMENT	COMPETITIVE STRENGTH ON DOMESTIC MARKET	DEMAND ON DOMESTIC MARKET	AVAILABILITY OF NEEDED INVESTMENTS	PRODUCTION QUALITY	DEVELOPMENT OF CZECH ECONOMY
DEVELOPMENT CONTINUED	GOOD	HIGH	OWN RESOURCES AND LEASING	VERY GOOD	4% ANNUAL GROWTH

The company continues in its research and development achieving success in cutting production costs employing both foreign partner's documentation and own knowledge. Gradually the company manages to supply half of its production to domestic market. Product is successful due to low costs reached through own technology and construction combined with high quality. However customers demand the accessories for the lawn tractors, those cannot be produced by the company limited by the production capacity. Company attains high profits.

Scenario no. 4 – horizon 2010

DEVELOPMENT	COMPETITIVE STRENGTH ON DOMESTIC MARKET	DEMAND ON DOMESTIC MARKET	AVAILABILITY OF NEEDED INVESTMENTS	PRODUCTION QUALITY	DEVELOPMENT OF CZECH ECONOMY
DEVELOPMENT OF BOTH TRACTORS AND ACCESSORIES	VERY GOOD	HIGH	OWN RESOURCES, LEASING AND MID-TERM BANK LOAN	VERY GOOD, COMPARABLE TO THE IMPORTED TECHNIQUE	5% ANNUAL GROWTH

After a year of production according to the technical documentation supplied by the foreign partner company adopts its own production process creating its own original product. As it was the case with previous scenario it partially enables the company to cut costs. The main competitive advantage generated by the company lies in the accessories for tractors. Costs remain low and product quality high. Tractors with available accessories can compete with imported products taking over a major part of market. Company attains very high profits as a major supplier of gardening tractors on the Czech market being able to export some of its production.

Scenario planning process in the company should involve team of selected employees discussing the issue and through this discussion forming the scenarios. It is the strategic conversation as denoted by Heijden.

6. Conclusion

Throughout my research I discovered that scenarios can serve as a very good instrument or shall I write tool for analyzing the environment. They are analytical tool enhancing the process of learning about the environment rather than for hard data analysis and delineation. I found scenarios important due to their ability to potentially contain the uncertainty in the environment assuming it to the process of strategy creation, which cannot really be done by an econometric model. Scenarios planning according to Heijden, which I researched was not based on the rationalist prognosis and rationalist structures. It was rather different from the neoclassical economy and operating forecasts that are usually taught in the bachelor courses. The main idea of creating several scenarios of equal likeness proved to be rather efficient throughout my work. It fitted the constraints for good strategy of J.B. Quinn as described in the literature review. I must consider the fact that such process is meant to be done in teams over a long term. I wasn't able to research this teamwork properly and I cannot supply a proper analysis of how scenarios perform in the horizon of several years, partly on the cause of companies unwilling to provide data of strategic nature for my research and partly due to the time constraints of bachelor thesis. This process of scenarios being primarily about uncovering the causal relationships in the environment and seeking for significant variables through the communication in-between the employees of an organization proved highly complex. If such a process is matched to criteria of Mintzberg ten schools I can state that through the strategic conversation we can almost draw an elephant. Scenario planning is just a pencil, we need a paper as well and still the picture is just our interpretation. Scenarios well integrated and properly done create a shared view, communicate it, minimize the troubles with changes of culture, integrate the learning, contain the entrepreneurship factor in the concept of business idea, explore the niches of the organization, odd out the dangers and prepare it for the transition once this is needed. On the other hand scenarios cannot be perceived as a universal way of strategy creation, they remain the tool. Creation of strategy seems very much as a combination of good business

idea, detailed knowledge of the environment including competition, skilled management and also the luck.

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8. Supplements

8.1. Balance Sheets

31.12.1995, 31.12.1996, 31.12.1997, 31.12.1998 a 31.12.1999

ASSETS		1995	1996	1997	1998	1999
TOTAL ASSETS	1	292 314	442 003	800 536	1 120 267	1 170 460
STOCK SUBSCRIPTIONS RECEIVABLE	2	0	0	0	0	0
INTANGIBLE AND TANGIBLE ASSETS AND INVESTMENTS	3	127 033	271 641	312 937	546 954	603 018
Intangible assets	4	452	338	3 575	4 096	3 457
Expenses of foundation and organization	5	0	0	0	0	0
Research and development	6	0	0	0	1 014	1 173
Software	7	452	338	2 775	3 082	2 282
Patents, rights and royalties	8	0	0	0	0	0
Small and other intangibles	9	0	0	0	0	2
Intangibles in progress	10	0	0	800	0	0
Advances for intangibles	11	0	0	0	0	0
TANGIBLE ASSETS	12	126 581	186 984	242 463	273 236	272 596
Land	13	1 258	1 776	8 789	12 230	12 457
Buildings, halls and constructions	14	45 971	51 142	133 248	166 855	177 018
Separate movable items and groups of movable items	15	73 950	65 348	156 377	139 386	103 643
Permanent growth	16	0	0	0	0	0
Livestock	17	0	0	0	55	46
Other tangible assets	18	2 717	2 384	17 557	36 575	27 332
Tangible in progress	19	2 685	5 234	28 539	4 964	20 197
Advances for tangible	20	0	61 100	2 521	10 270	21 533
Adjustment to acquired property	21	0	0	-104 568	-97 099	-89 630
FINANCIAL INVESTMENT	22	0	84 319	66 899	269 622	326 965
Majority shareholdings and participating interests (shareholdings > 50%)	23	0	2 100	2 100	0	0
Substantial shareholdings and participating interests (shareholdings of 20% - 50%)	24	0	50	50	50	2 345
Other securities and deposits	25	0	0	0	0	0
Intergroup loans	26	0	0	44 193	0	0
Other loans and financial investment	27	0	82 169	20 556	269 572	324 620
CURRENT ASSETS	28	164 227	165 575	466 474	533 484	517 941
INVENTORY	29	33 437	38 203	121 553	208 932	131 278
Materials	30	17 749	31 052	77 388	118 012	70 698
Work in progress and semi-finished production	31	15 386	2 766	27 562	46 230	32 955
Finished products	32	302	4 385	15 232	42 026	17 542
Livestock	33	0	0	0	0	37
Goods	34	0	0	1 371	2 664	10 046
Advances granted	35	0	0	0	0	0
LONG-TERM RECEIVABLES	36	0	0	0	0	0

Trade receivables	37	0	0	0	0	0
Receivables from partners and associations	38	0	0	0	0	0
Receivables from related companies (shareholdings > 50%)	39	0	0	0	0	0
Receivables from related companies (shareholdings of 20% - 50%)	40	0	0	0	0	0
Other receivables	41	0	0	0	0	0
SHORT-TERM RECEIVABLES	42	122 413	104 170	178 509	242 883	239 150
Trade receivables	43	122 313	103 288	178 282	242 599	193 217
Receivables from partners and associations	44	0	0	0	0	0
Receivable from social security	45	0	0	0	0	0
Receivables from taxes and subsidies	46	6	701	12	32	45 714
Deferred tax assets	47	0	0	0	0	0
Receivables from related companies (shareholdings > 50%)	48	0	0	0	0	0
Receivables from related companies (shareholdings of 20% - 50%)	49	0	0	0	0	0
Other receivables	50	94	181	215	252	219
FINANCIAL ACCOUNTS	51	8 377	23 202	166 412	81 669	147 513
Cash	52	35	44	396	301	158
Bank account	53	8 342	23 158	166 016	81 368	147 355
Short-term financial account	54	0	0	0	0	0
OTHER ASSETS AND DEFERRED CHARGES	55	1 054	4 787	21 125	39 829	49 501
Temporary accounts of assets	56	1 054	3 958	21 125	39 829	34 564
Prepaid expenses	57	395	1 768	9 078	20 913	18 574
Unbilled revenue	58	0	2 136	5 891	4 289	4 909
Exchange rate variances-loss (debit)	59	659	54	6 156	14 627	11 081
Contingencies-gain	60	0	829	0	0	14 937

CAPITAL & LIABILITIES		1995	1996	1997	1998	1999
TOTAL EQUITY & LIABILITIES	61	292 314	442 003	800 536	1 120 267	1 170 460
EQUITY	62	68 286	169 671	289 681	444 753	526 358
BASIC CAPITAL	63	2 000	2 000	2 000	200 000	200 000
Basic capital	64	2 000	2 000	2 000	200 000	200 000
Own shares	65	0	0	0	0	0
CAPITAL FUNDS	66	67	67	67	67	67
Share premium (agio)	67	0	0	0	0	0
Other capital funds	68	67	67	67	67	67
Revaluation of assets	69	0	0	0	0	0
	70	0	0	0	0	0
FUNDS CREATED FROM PROFIT	71	99	240	240	240	10 240
Legal reserve fund	72	99	240	240	240	10 240
Indivisible fund	73	0	0	0	0	0
Statutory and other funds	74	0	0	0	0	0
RETAINED EARNINGS	75	1	65 579	157 364	69 374	234 823
Retained earnings previous years	76	1	65 579	157 364	69 374	234 823
Retained losses previous years	77	0	0	0	0	0
PROFIT AND LOSS OF CURRENT ACCOUNTING PERIOD	78	66 119	101 785	130 010	175 072	81 228
LIABILITIES	79	220 682	268 580	504 826	620 260	637 315
RESERVES	80	25 009	35 176	94 340	226 753	310 710
Legal reserves (i.e. tax deductible)	81	24 350	35 176	88 184	192 084	268 472
Reserve for exchange rate losses	82	659	0	6 156	3 512	11 081
Other reserves	83	0	0	0	31 157	31 157
LONG-TERM LIABILITIES	84	0	0	0	0	0
Long-term payables to related companies (shareholdings > 50%)	85	0	0	0	0	0
Long-term payables to related companies (shareholdings of 20% - 50%)	86	0	0	0	0	0
Long-term deposits received	87	0	0	0	0	0
Bond payable	88	0	0	0	0	0
Long-term notes payable	89	0	0	0	0	0
Rent and other long-term payables	90	0	0	0	0	0
SHORT-TERM LIABILITIES	91	106 912	120 632	256 149	246 338	267 511
Trade payables	92	58 249	66 819	205 302	191 016	234 989
Payables to partners and associations	93	0	0	7 575	23 927	25 965
Payables to employees	94	1 418	167	208	186	157
Social security payable	95	808	1 551	4 036	3 456	3 317
Taxes payable	96	45 329	50 428	38 937	26 343	743
Deferred taxes	97	0	0	0	0	0
Payables to related companies (shareholdings > 50%)	98	0	0	0	0	0
Payables to related companies (shareholdings of 20%-50%)	99	0	0	0	0	0
Other payables	100	1 108	1 667	91	1 410	2 340
BANK LOANS AND SHORT-TERM NOTES	101	88 761	112 772	154 337	147 169	59 094

Long-term bank loans	102	88 761	112 772	154 337	117 314	723
Short-term bank loans	103	0	0	0	29 855	58 371
Short-term notes	104	0	0	0	0	0
OTHER LIABILITIES-TEMPORARY ACCOUNTS OF LIABILITIES	105	3 346	3 752	6 029	55 254	6 787
Accruals	106	1 824	1 599	1 168	22 875	2 415
Accruals	107	1 275	102	0	277	579
Deferred income	108	0	187	698	464	82
Exchange rate variances-gain(credit)	109	549	1 310	470	22 134	1 754
Contingencies-loss	110	1 522	2 153	4 861	32 379	4 372

8.2. Profit and Loss Account

31.12.1995, 31.12.1996, 31.12.1997, 31.12.1998 a 31.12.1999

REVENUES AND COST		1995	1996	1997	1998	1999
Revenues from goods sold	1	0	0	1 941	3 161	59 521
Cost of goods sold	2	0	0	1 736	2 891	51 796
GROSS MARGIN	3	0	0	205	270	7 725
OPERATION	4	508 073	594 253	1 588 300	1 705 662	1 320 907
Revenues from finished products and services	5	496 673	602 662	1 571 718	1 644 740	1 286 094
Changes in inventory	6	11 137	-8 510	4 387	41 625	-36 203
Capitalization (of own work)	7	263	101	12 195	19 297	71 016
CONSUMPTION FROM OPERATION	8	309 861	370 020	1 110 795	1 150 110	926 346
Consumption of material and energy	9	254 758	319 923	1 005 827	1 037 202	840 442
Services	10	55 103	50 097	104 968	112 908	85 904
VALUE ADDED	11	198 212	224 233	477 710	555 822	402 286
PERSONAL EXPENSES	12	43 139	45 965	130 319	147 534	146 449
Wages and salaries and earnings of partners and comp. members	13	31 374	33 745	96 367	108 576	108 185
Bonuses to members of executive bodies of companies and coop.	14	0	0	0	0	0
Social insurance and other expenses	15	11 286	11 765	33 407	37 828	36 958
Statutory social expenses	16	479	455	545	1 130	1 306
Taxes and fees	17	319	576	788	813	3 840
Amortization o intangibles and depreciation of tangibles	18	24 100	18 242	55 028	52 151	61 260
Revenues from intangibles, tangibles and material sold	19	23 376	34 792	24 507	33 435	126 981
Net book of intangibles, tangibles and material sold	20	10 313	27 784	21 394	26 357	117 284
Reversal of reserves and prepaid expenses	21	1 949	8 866	9 926	21 004	34 725
Creation of reserves and prepaid expenses	22	19 808	19 692	62 934	139 903	120 082
Reversal of provisions	23	0	473	8 045	7 949	8 085
Creation of provisions	24	4 483	703	3 199	5 322	30 776
Other operational revenues	25	843	4 483	1 817	716	2 023
Other operational expenses	26	930	786	1 616	6 000	1 816
Transfer of operational revenues	27	0	0	0	0	0
Transfer of operational expenses	28	0	0	0	0	0
NET OPERATING RESULTS	29	121 288	159 099	246 727	240 846	92 593
Revenues from sales of securities and deposits	30	0	0	30 124	0	370 862
Sold securities and deposits	31	0	0	29 314	0	370 358
Revenues from financial investment	32	0	1 235	1 098	0	9 536
Revenues from securities and deposits in companies in the group	33	0	1 235	1 098	0	9 536
Revenues from other investment securities and deposits	34	0	0	0	0	0
Revenues from other financial investment	35	0	0	0	0	0
Revenues from short-term financial assets	36	0	0	0	0	0
Reversal of financial reserves	37	0	659	0	3 009	3 512
Creation of financial reserves	38	659	0	6 156	16 523	2 112
Reversal of provisions	39	0	0	0	0	0
Creations of provisions	40	0	0	0	2 100	0

Interest revenues	41	394	7 121	15 051	34 703	17 500
Interest expenses	42	11 507	11 088	26 941	14 567	7 609
Other financial revenues	43	633	2 438	16 341	29 473	32 398
Other financial expenses	44	1 320	1 465	33 157	14 585	40 210
Transfer of financial revenues	45	0	0	0	0	0
Transfer of financial expenses	46	0	0	0	0	0
NET RESULT FROM FINANCIAL ACTIVITIES	47	-12 459	-1 100	-32 954	19 410	13 519
Income taxes on normal activity	48	43 882	55 981	79 531	92 108	41 887
- due	49	43 882	55 981	79 531	92 108	41 887
- deferred	50	0	0	0	0	0
NET RESULT AFTER TAXES FROM ACTIVITIES	51	64 947	102 018	134 242	168 148	64 225
Extraordinary revenues	52	1 739	229	1 459	496 089	525 227
Extraordinary expenses	53	567	462	5 691	489 165	508 224
Income tax on extraordinary activity	54	0	0	0	0	0
- due	55	0	0	0	0	0
- deferred	56	0	0	0	0	0
NET RESULT AFTER TAXES FROM EXTRAORDINARY ACTIVITIES	57	1 172	-233	-4 232	6 924	17 003
INCOME DISTRIBUTION TO PARTNERS	58	0	0	0	0	0
NET INCOME (NET LOSS) FOR THE ACCOUNTING PERIOD	59	66 119	101 785	130 010	175 072	81 228
RESULT OF OPERATIONS BEFORE TAX	60	110 001	157 766	209 541	267 180	123 115