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Strategy as Options on the Future-the Environment Catalysis Dimension

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Abstract: Since it is difficult to predict the future using the concept of strategy as options on the future introduced by Peter J. Williamson is a way of circumventing this insecurity. This study further develops this theory by introducing a process or framework for choosing the options based on scenario analysis. By using scenario analysis small glimpses of possible futures can be seen and by selecting options present in two or more scenarios significantly increase the probability of option realisation. The study also contains a discussion on how frequent new options should be added to the options portfolio and how this frequency should be decided upon. Finally the possibility to increase the probabilities of the options by adding a dimension, the environment catalysis dimension, to the model suggested by Williamson is presented.

Key words: Enviroment, catalysis dimenion

INTRODUCTION

The only thing that is for sure about the future is that very few, if anyone, can predict it with the accuracy needed to outline a corporate strategy valid in the long term, especially not if this strategy is based on projections of collected sales data produced by product type or region. Since the corporate environment has started to change faster and faster in almost every industry in general and in technology intense industries in particular, it is of essence to adopt a strategy planning procedure that mirrors the pace of the surroundings. One way to achieve this responsiveness to changes is to gather options on the future and in this way combine strategy planning and opportunism in a way described by Peter J. Williamson[1].

In this study the authors suggest a framework or process for choosing the future options based on scenario planning. It is also argued that by adding a third dimension, the environment catalysis dimension, to the Williamson model it will be possible to increase the probability of the chosen option realising.

THEORY

In this study chapter the origin theories will be shortly reviewed to give the reader a basic understanding of the subject making it easier to adsorb the additional theorizing suggested here. The section starts by recapping the main constituents of the Williamson model and then gives a short overview of the theories associated with scenario planning used for formulating the future option choosing framework.

Strategy as options on the future: In the model suggested by Williamson[1] he presents how it is possible, by strategic planning, to convert the insecurity of the future into options on the same. By using the model it is possible to put together a portfolio with alternative that fits the industry development and avoid lock-ins by making costly investments that end up not suited for future needs.

The main constituents of the model can be summarized into four steps:

- Uncovering the hidden constraints on the companies future
- Establishing processes for building new strategic options
- Optimizing the portfolio of strategic options
- Combining planning and opportunism

In the first step the companies limiting factors unabling it to evolve and make use of future possibilities are charted. These restraints are described to be of two types, either lacking capabilities or in foreseeing potential markets. The lack of capabilities can be a lack of resources (production capacity, logistic networks or starting material) but can also be a lack of knowledge (research results, personnel competence or advanced equipment).

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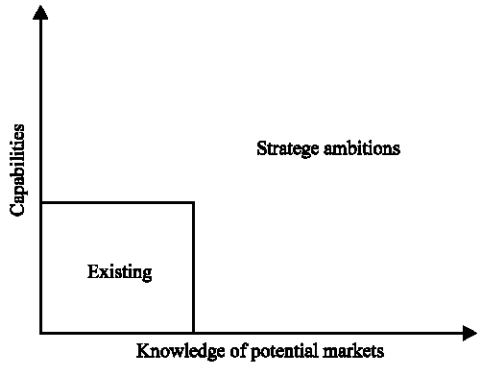

Fig. 1: The two dimensions of limiting factors[1]

The lack of developing new capabilities unables the company to react when there are possibilities and therefore loses market shares. The opposite is when the company has the capabilities but is unable to identify or understand new markets (both geographic markets and product markets). These two types of constraints are visualised by a graph, like the one on Fig. 1 and the companies' objective is to identify and chart the constraints on both the axes

When the hidden constraints have been identified then the next step is to establish processes that counter act the identified limitations enabling the company to react when new possibilities and markets arise. But as the flexibility is increased the associated cost must be controlled because the result of an increased flexibility can not be unbarable over time. The aim is to build processes that keep a wide variety of future possibilities but at a reasonable cost. Ways to do this might be to join strategic alliances with, acquire minority shares in or create strong bonds with supplies, customers or companies with technique, research or knowledge within the areas identified as limiting in the first step of the model.

When the processes have been established the options are viewed in a portfolio perspective where the different alternatives are valued. The valuation is done by looking at the cots of keeping them and their future prospects of generating income to the company. In this valuation process three basic things have to be weighed together to get a fictive value of the option:

- The cost of retaining the option
- The estimated probability of the company using the option
- The probability that the creating of the option will generate other future options even though the original option is not realised.

In the final step of the model the portfolio of options is used, this by evaluating the creating possibilities and comparing them to possibilities that surface and, when there is a match, realise the option. In the management of the portfolio it is important to observe how the current options are in line with the company's long term strategy and of course to constantly revise the cost of keeping the options.

Scenario analysis: Scenario analysis is a subject that still poses a lot of challenges because many of the scenario analysts of today are unwilling to share their methods, meaning that the existing methods are not described in detail but more on a general level[2]. In this study the main characteristics of the scenario analysis methods used to suggest a way to build scenarios to identify future options are described. Scenario analysis in general aims at suggesting possible futures and should not be mixed up with prognoses that aim at describing a plausible future from existing facts[3].

The first source of inspiration when developing the process for identifying options on the future using scenario analysis was the business idea that has been suggested by Kees van der Heijden[4] and it will be broadly described in the following. The core in scenario analysis by van der Heijden is the business idea, defined as:" The business idea is the organization's mental model of the forces behind its current and future success". The business idea is based on two pillars, win potential and clear competences and by studying how these two pillars can be combined the business idea can be explored. The variations of the business idea are put in relation to the created customer value and competences in a positive feed back loop.

When the environments possible effects on the organisation has been charted the analysis moves into the next phase, judging the insecurity of the future development. The insecurity can be divided into three categories:

- Risk
- Structural insecurity
- Unknown

and it is when analysing the unknown that scenario analysis should be used[5]. When constructing the different scenarios van de Heijden suggest five criteria that must be fulfilled to make the scenarios useful:

- At least two scenarios is needed to address the insecurity
- Every scenario has to be possible

- The scenarios have to be consequent in its structure (they can not contain contradictory assumptions)
- The scenarios have to be relevant to them for whom they are constructed
- The scenarios have to create new and original perspectives on the business for which they are constructed

The one method that has influenced the suggested process the most is the Global Business Network and it is based on the original methods used by Shell during the 1960s[2]. The way used to construct the scenario was by following an eight step scheme through which it was possible to construct a scenario. The most important step is to identify the question or decision around which the scenarios should be built.

Besides these two theories the discussion around industry scenarios by Porter[2] has dyed the final method used for building the scenarios.

FRAMEWORK FOR CHOOSING OPTIONS

The suggested framework fits into the model suggested by Williamson by being a process to identify new strategic options, displayed in Fig. 2.

The suggested method for performing the scenario analysis is mainly based on the Global Business Network view but the criteria for scenario analysis formulated by van der Heijden has also been used for validation and the authors agree with Porter that, at least when choosing options for the future, the industry level of view is the one to adopt.

When performing the scenario analysis the most important thing to do is to define what question the scenarios should be built around and this should be chosen so as to mirror the entire industry e.g. which fuel platform will replace petroleum? Next factors affecting the company's environment, both the company's micro and macro environment, are identified. In this part of the scenario building the authors suggest that not only experts from within the company but also external experts are invited to participate to cover more aspects of the industry. The identified factors are ranked based on both how important the factor is for the chosen question and how insecure the factor is, with the most insecure factor gaining the highest rank. A way to present the ranking might be as in Table 1.

The ranking of the importance and the insecurity is then summed and drawn into a diagram as in Fig. 3.

In Fig. 3 the five factors that are ranked as most important and most insecure are within the square and they are ascribed two states e.g. important, not important,

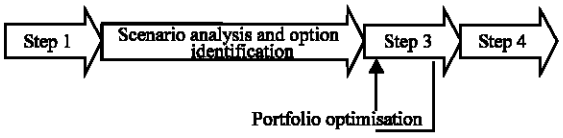

Fig. 2: The suggested frameworks position within the Williamson model

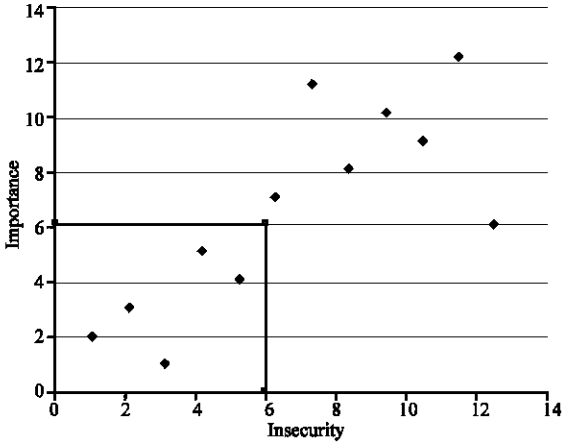

Fig. 3: A visualisation of the factors that should affect the scenario building

Table 1: Suggestion on how to present ranking, the factors and the ranking should be considered an example

Factor	Importance	Insecurity
Economically feasible	4	5
New inventions, new technique	5	4
Personnel knowledge	11	12
Recourse shortage	10	9
Oil supply	1	2
Oil price	2	3
Green house effect	3	1
Ecologically feasible	7	11
Opinion	6	7
New research reports etc.	12	6
Legislation	8	8
Taxes	9	10

obvious effect, no obvious effect etc. By varying the states of the parameters the guidelines for the scenarios are outlined. The various possible futures are then created and tested in what can be compared to a wind-tunnel where each scenario is looked at in different angles.

When all the scenarios have been built and tested the criterions stated by van der Heijden is used and the scenarios passing these standards are then used for finding suitable options on the future. When choosing options the more scenarios in which the option can be found the higher the probability that it is realised, Fig. 4.

The more scenarios where the option is present the lower the risk of it not realising and therefore this should be taken into account when choosing the options. But the

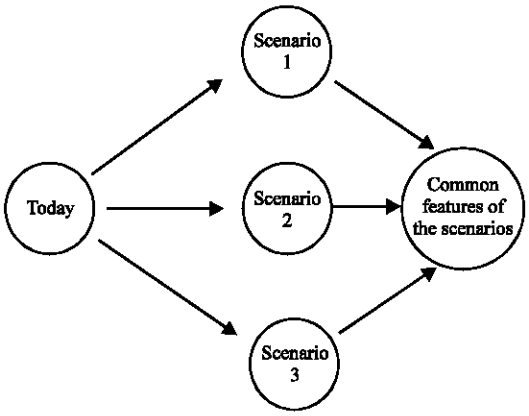

Fig. 4: How to identify and choose options after constructing the scenarios

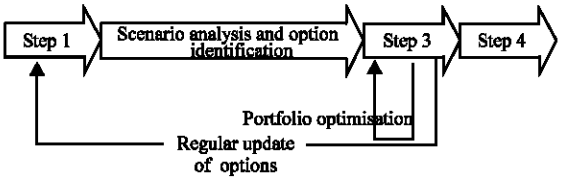

Fig. 5: The Williamson model with the suggested process and regular update loop

choice of options can not be based on the presence in many scenarios alone, additional estimations of risk etc. is needed. The options shared between the scenarios can be of various nature, it may be a new technique that gives different possibilities. It can also be things like a scarce resource, human or material, that proves to be a bottle neck in several scenarios or a for instance a partner, supplier, customer etc., that should be tighter integrated into the organisation.

The process of choosing options via this process should be repeated on a regular basis, Fig. 5 and the options portfolio should be updated with new options, discarding old, obsolete ones.

The authors suggest that the regularity of the portfolio updating somehow mirrors the changes within the surroundings. This regularity can be compared to the concept of time-pacing and just like in time-pacing the regularity or rhythm should be based on the changes of the environment.

THE ENVIRONMENT CATALYSIS DIMENSION

When the portfolio of options have been composed the probabilities that the options will realise is not constant but change over time as new technology is made available etc. These probabilities are however not

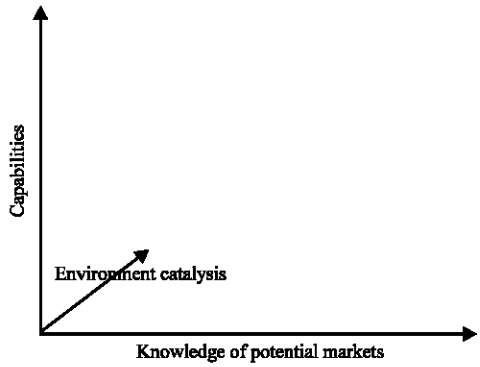

Fig. 6: The visualisation of the environment catalysis concept

factors that is controlled by the environment itself but can be affected, visualised by the environment catalysis concept, Fig. 6.

By affecting the environment in various ways the probabilities for the options realising can be increased. This can be done e.g. by the company acting as a venture capitalist investing early investing in technique that will make it more probable that the company can act on the options if this technique is commercialised. Another way to increase the options probabilities is to invest in technology that might become complementary goods to the future products in the portfolio. This can be one way of increasing the possibilities of winning a standards race as well as increasing the perceived value of the product. These examples only cover the technology part of the capability dimension but there are actions to be taken on the market dimension as well. For instance by investing money in infrastructural related projects in non developed areas, new lucrative markets can be created. These are of course merely a few actions to be taken to increase the probabilities of the chosen options realising and many others can be used but they are quite individual to various companies and therefore be outlined with the unique company in mind.

CONCLUSION

Since looking into the future is something that is difficult on the verge of impossibility it seems to be a good idea to prepare for it by keeping as many options as possible open, without losing focus on the overarching strategy or letting the costs runaway. By applying the suggested framework to an organisation and thus using scenario analysis it will, if performed properly, allow for seeing glimpses of possible futures and choosing options according to what is foreseen. The chosen options

becomes a little less haphazardly chosen and the probabilities of them realising increases, especially if the options are present in two or more scenarios. It will also be easier to act on the options in the portfolio as the possible futures have been foreseen and it is therefore easier to recognise the signs of one particular future realising.

When the option portfolio has been chosen it is important that it is constantly revised to get rid of the options not fitting into the overall strategy. This process should be continuous as suggested by Williamson but the options should also be updated on a more regular basis. This is done by using the suggested framework with a preset rhythm suitable for the environment of the company. Finally it is of essence to not wait until your options are realised but to try to change the working environment to further increase the probabilities of options realising.

To sum it all up use scenario analysis when choosing options, preferably options present in several scenarios, to include in the portfolio. Do this with a preset rhythm and most important: do not sit around waiting for the options to realise but actively try to affect the environment to better suit the company option. Catalyse your environment!

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