Scenario Analysis on Dynamic Strategy and Revelations for Chinese Enterprises

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Abstract Based on the concepts and characteristics of dynamic strategy and scenario analysis, the thesis has discussed that how the scenario analysis applies in dynamic strategy for an enterprise within its function, the operation processes, its applying scopes and the keys of the scenario analysis in company's strategy planning application. And it analyzes the conditions of Chinese enterprise in the face of a high level of uncertainty and complexity within competitive environments. The keys that Chinese company will apply the method have been given by this paper.

Key words Dynamic Strategy Scenario Analysis Uncertainty Chinese Enterprise.

1 Introduction

For technique changes continually and economy increases quickly, the society becomes more and more complicated and changeful. Most company in realistic society must be faced with the complicated and uncertain future. Those decisive factors which influence company's development are very complicated and changefully. It is difficult to forecast accurately the future trends of company only by the historical performance of those factors. It is much difficult to do that there would be some new factors emerging recently or there would be not historical data as reference even. But, the traditional strategy analysis and planning methods mostly do that by the history and realistic conditions mainly. Once the environments which company will develop in the future would be changed rapidly, the strategy that is made by applying the traditional methods must be out of the joint with practice. For this case, the dynamic strategy planning is more suitable for an uncertain environment strategy planning. According to the current research results, the dynamic strategy planning methods include Real Option, Dynamic evaluation, Scenario Planning, Value Based Management and Financial Footprints, etc\(^{[1]}\). For the scenario analysis would be more flexible and valid as one makes a forecast for a long-term prospect, it is known and applied by abroad company more and more. Nearly 50% of corporations in developed country are researching and applying scenario analysis since 1980s, and the number is increasing quickly. But in China, this method has not been recognized by academia until middle of 1990's. At present the application only has been confined in a few key realms which are important to the national economy, such as transportation, energy, steel, water resources etc.\(^{[2-4]}\) It has not found that any relation literatures is on the application in business Management for enterprises.

The author has taken an investigation to 80 middle and senior managers from enterprises on the questions whether they understood the dynamic strategy planning and the scenario analysis in the courses for MBA graduate students, the result is that 70% of them known the concepts of dynamic strategy planning but only 3 students less than 5% of them understood its essential contents, only 2 persons heard of the concepts of the scenario analysis, no one understood its application at all. It is obvious that the dynamic strategy planning and the scenario analysis haven't been regarded by enterprises in China, especially in the management practices of enterprises.

Based on the characteristics and concepts of the dynamic strategy planning and the scenario analysis, the thesis will discuss the function, the operation processes, its applying scopes and the keys of the scenario analysis in company's strategy planning application. It will analyze the high uncertainties which Chinese enterprise must face with and what does Chinese enterprise apply the method for the uncertainty such as in transforming, developing, growing and working well. It is expected that Chinese enterprises would be aware of the importance to deal with complexity and uncertainty with the scenario analysis, and would study, research and apply the method as soon.
2 Dynamic Strategy and Scenario Analysis

2.1 Dynamic Strategy planning

Traditional strategy often estimates account on the future status of some technique development, based on a series of hypothesis with the environments and construction of a system being invariable. It matches our usual thinking methods, and can also reflect the rules and restrictions that people have already known. In fact, the development of things in future is often complicated and uncertain. It is with defect to predict the future by using only the past developing modes. So the more vivid dynamic strategy must be established to deal with the uncertain environments, that is the dynamic strategy planning. The dynamic strategy is opposite to the traditional one which is static. The characteristics of dynamic strategy planning can be obtained comparing with the traditional one (see table 1).

<table>
<thead>
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<th>Methods</th>
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<td>Basis</td>
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<td>Ideas and methods</td>
<td>Bringing forward hypothesis: to confirm the uncertain environments in future in ways of which include neglecting some factors, modelling with simplifying conditions and arbitrary forecasting.</td>
<td>Don’t avoid the uncertainty in future and conclude the status most possibly of environment development with deeply analyzing the uncertainty.</td>
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<td>Dealing with many factors</td>
<td>Dealing with many factors</td>
<td>The analysis for different factors is independent, and with little concern on the influences between the factors.</td>
<td>Emphasis on the combination of influences from different factors in the future environment.</td>
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<td>Analysis on the relation between the conclusions and the strategy measures</td>
<td>Analysis on the relation between the conclusions and the strategy measures</td>
<td>The analysis conclusions are corresponding to the strategy measures one by one. As soon as the analysis conclusions are obtained, the strategy measures are also determinate at the same time and they wouldn’t be adjusted though the development environments have changed.</td>
<td>The analysis conclusions from the dynamic strategy method have covered all possible environments in the future and suitable strategy measures. The measures can be adjusted with the environments varieties.</td>
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2.2 Scenario Analysis Method

Scenario planning is one of methods of dynamic strategy planning which describes about the future situation and a series of status that thins develop from original one to the future, it appeared in the book 《2000》 written by Herman Kahn and Wiener firstly. They think: the future is diverse and multiplex. Several possible results may appear in the future. So it wouldn't be unique that the paths lead to this or that status of future, too. It is called as the Scenario Planning or the Scenario Analysis to describe on the possible future status and the paths leading to them which are formed a Scene firstly. Then to analyze the possibilities which the possible status may appear considering all factors that influence the corporation development in future and to restrict the corporation’s possible development in a definite environment, finally to make a series of strategy measures aiming at the direction which the corporation most likely develop toward in the future.

Although many scholars have given the different definitions on the scenario analysis method with different cognitions to it, but the common viewpoints about its essential characters are given, those are: 1) It admits that the development in future is diverse and multiplex with various possible developing trends, then the estimation results will be also multi-dimensional; 2) It admits the active effects of
persons in future development. So it respects the intents of decision-makers of an enterprise as an important content of scene analysis method, keeping information exchange with decision-makers during the processes; 3) Especially, it emphasizes on the analysis to the harmonious and consentaneous relation between the key factors which have played an important roles in the organization development; 4) The difference of quantity analysis between the scenario analysis and the traditional trend extrapolation is that the scene analysis is a new estimation method joined quantity with quality to guide the proceeding of the quantity analysis; 5) As the scenario analysis method is one of the thinking methods in studying the future, its technique measures would use the knowledge coming from the other related sciences such as the psychology, futurology and statistics, et al. Its emphasis is on how to obtain the expert's knowledge and handle them, effectively.

3 The Application of Scenario Analysis on Dynamic Strategy of Enterprises

3.1 Advantages and Functions

The scenario analysis method is a valid method in company’s dynamic strategy planning which can be applied to deal with complex and uncertain environments, so it is high efficient to make long-term prediction. It regards the related person exterior and inside a company as the main bodies, makes them be more sensitive to the varieties of circumstance, urges them to think the meanings form the varieties, changes their intelligent models and promotes their performance abilities by classifying all kinds of possibility of future development environments with sufficient imagination. The advantages of scenario planning are: 1) Let the company leader know of some possible opportunities or threats earlier than others; 2) Make the company leader's proper thoughts and intelligence models change more easy; 3) Let the strategy dialogues be more active, more open and more pure-hearted; 4) Let company leader prepared well for future with various plans( catching a few opportunities and avoiding any risks); 5) Let the organization promote their abilities adapting to changes and renovations, obviously; 6) Let the organization improve their studying abilities availably.

This method was used in military strategy initially by the RAND in the United States. Then the GE, the Royal Dutch Shell had also introduced it into their strategy planning in the middle of 1970s, and the Royal Dutch Shell had obtained huge success from it. Nearly half of 1,000 large corporations in the United States have established their long-term decision-making mechanism applying the scenario analysis method.

3.2 Operation Processes

The process on the scenario analysis execution is different for who have different researching emphases and analysis viewpoints. Gilbert (2000) has divided it into 10 steps. Fink (2000) thinks it as a scenario engineering which should be divided into 5 stages. The school La Prospective have brought forward six steps method. The probability trend amending school has put out Gomez & Escher's (1980) three stages method; Schoemaker, etc. have also put forward different ten steps method, etc. Now, what the most of international organizations and corporations apply commonly is the 6 steps method that was designed by the Stanford Research Institute (the SRI). It include choosing the definite decision focus, identifying the key factors, analyzing the outside driven force, choosing uncertain development directions, developing scenario logic and analyzing the contents of the scenes. Although many scenario analysis applying methods that scholars have put forward look much outer different, but there are only four important and basic steps (see figure 1) which can be discovered through summing-up them.

Therefore, when a corporation make a dynamic strategy plan, he should enlarge the portion of the analysis on key scenario factors and analyze carefully the important function of it in whole scenario analysis, whether he applies what is above. There is very important meaning for a corporation applying the scenario analysis method to get right conclusions successfully. What is emphasized is that this program should be completed by repeating many times. As any experienced researcher knows, the main works on prediction is bringing forward the suitable problems. Because the factors which affect a system are more complicated, it demands to repeat many times in order to gain some deep comprehensions on the system. As you have some deep comprehensions, you can bring forward some suitable problems and then you can make a suitable strategy project.
3.3 Applying Scopes

For the scenario analysis belongs to the plentiful-resources techniques and only large corporations have held the resources that put it into practice, it is usually considered as only being put into practice in large multinational companies. But Robert Bood and Theo Postma (1997) think that, if a limited resources and management time has been given, the scenario analysis is also suitable for a middle or small company. R. Phelps et al (2001) had researched on two companies been different status chosen from different industries, he had discovered that the scenario analysis is a beneficial technique. The scenario analysis has nothing to do with company’s scale, but can affect the company’s accomplishment. When the whole industry is faced with changing and some uncertain situations in future, to apply the scenario analysis in the company’s strategy planning is beneficial to improve their accomplishment. In fact, there is not definite standard now on the scope restriction applying the scenario analysis in although it is a main method in medium-term and long-term investigation. There try to induce and merge as follows: 1) Development in the future is much uncertain. There may appear some new opportunities or challenges. All those are not obvious; 2) there are many different opinions on the development in future. But there are large differences among those opinions, and each one has some evidence; 3) There are numerous factors which influence the development in future, and the person’s factor (as decision choice, etc) is more obvious; 4) The items scatters, the scope is very wide, and it will take too expensive to obtain those information; 5) There had appeared various "paroxysmal" phenomenon, and they resulted in much damages; 6) The development may emerge obvious "leap".

3.4 Keys of Applying Scenario Planning

3.4.1 Identifying key factors

The core of the scenario planning is to analyze and design a fit scene. But the scene is combined with many uncertain factors which influence company's development in future and are defined as keys in scenario planning. Those key factors must have two characteristics: the first they would influence company's future development much; the second their status are uncertain in future, but the types and the probabilities of all possible status can be judged.

In scenario planning, what very important are the datum that the degrees factors to influence the company’s future development, the descriptions of the possible status in future, the probability of each status. Those should be collected by the investigation to experts. When choosing experts, it should follow the principle combination inner with exterior and the extensive principle. The principle combination inner with exterior is to choose both internal experts and exterior experts. The internal experts include experienced managers, engineers and common employee. They know and hold the status
of the company and the industry deeply. The exterior experts include managers and technical experts in other company of the same industry, the experts in academe, the professors in universities etc. They are familiar with the actuality of the industry development, and can grasp accurately the industry's future development trends. The extensive principle is to choose the experts from every realms include technique, market and production etc in order to gather all datum which can reflect the whole status of the industry. The quantity of experts is also an embodiment of universality. For improving the usability of datum, it should extend the expert's quantity as much as possible and enrich the quantity of datum.

3.4.2 Establishing scenes

Scenes are to deduce and conclude the future development. Every alignment combination with key factors is corresponding to a status of future development environment. As the quantity of key factors increase, the categories of alignment combination will be increased as double. But we can't set up all the scenes and bring forward the corresponding strategy projects. The scenario planning is to gather and class all the alignments and to combine the same or close one into a same kind and to establish a scene. Finally, all alignment combinations are set up to 3-4 kinds of main scenes. It gives a description on each scene with basic characteristics, compute the probability of each scene to appear and make the strategy planning based on that.

3.4.3 The combination with the scenario planning and the traditional strategy method

Although the scenario planning has many advantages compared with the traditional strategy method, it is undoubted that it is also restricted by a lot of conditions in application, for example: 1) the experts chosen can not cover with all realms in an industry. The experts are limited by their subjectiveness. The quantity of experts lack off sufficiency etc; 2) the scenario analysis method has disadvantages with long-time, much complexity, low near effects and restriction from company's traditional models etc. We must combine the scenario planning with the traditional strategy method to make a fit strategy planning, according to the variety characteristics of company's internal and exterior environment and the reliability of the datum.

4 Revelations to Chinese Enterprises--The Uncertain Environments and the Applicability of Scenario Analysis

4.1 Enterprises which Meet Difficulties and Need Transformation

Chinese enterprises, especially the state-owned one, were mostly engraved by something with the planned economy. They are difficult to change their ideas quickly in order to adapt the environmental varieties. They are placed in the disadvantageous situations in market competitions, and meet certain management difficulties. For these corporations, it is chief to make the strategy and business transformation. But where is the direction of business transformation? What difficulty may emerge after the transformation? How does to proceed the transformation? All these questions can’t be answered from analysing the history datum of company. In this case, we should apply the scenario planning to choose the possible transforming directions with analysing the scenario characteristics and the transforming possibility as considering all the uncertain factors as possibly.

4.2 Enterprises which are in the Developing and Growing and Hope to Proceed Diversification

Parts of enterprises are developing successfully in some industries, but would be decelerated with restrictions from the development of the whole industry. As the development potential in future isn't great, diversification or part diversification management is a main path along which the corporation would take in order to break the limits from original industry. But it means to put diversification into practice that the corporation must choose some new business directions, especially make sure the correlation degrees between the new businesses with the original one. In this case, we also should use scenario planning to choose the fit new business with analysing the diversified business scene in future.

4.3 Enterprises which Work normally but the Interior and Exterior Environments of its Industry are taking place obvious variety and the total trends in future is hard to Forecast

Suffer the influence from international economy, political and the domestic politics, economy, society and culture etc, the uncertain factors for parts of corporations in future development environment are increasing, and the uncertainty degrees are risen. It is too difficult to estimate
accurately the development trends in future by making only use of the history and present datum. They should apply the scenario planning to establish some adjusted strategy projects with analysis the industry and company’s future development scenes.

As above three kinds of enterprises, most of Chinese corporations are situated in highly uncertain environments. What challenges come from uncertainty are the revelations to Chinese corporations. To take competitive advantages in the complicated and changeful environments, they should choose more vivid and dynamic strategy planning. As the scenario analysis method is efficient, Chinese corporations should organize teams to study and apply it in their management as early as possibly.

5 Conclusions
Scenario planning can be used as an important reference for any Chinese enterprise which is situated in highly uncertain and complicated environments. It is applicable to the Chinese enterprise during any period of transforming, developing, growing and working well. It could help an enterprise to describe and edit various manuscripts of the scene in future, and to make a suitable strategy planning under the quesy and various environments in future. It can also help an enterprise to evaluate its risk and to find out a fit strategy by which the loss would be reduced, if the environment is broken. It is necessary for Chinese enterprises to organize teams as studying and applying scenario analysis as early as possibly. It is very important to know and hold the uncertainty actually as following the four basic steps in the strategy planning. It would help the enterprise to obtain competitive advantages in a high uncertain environment.

References

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