

Strategic Investments Evaluation in a Flexibility Context with a Real Options Application

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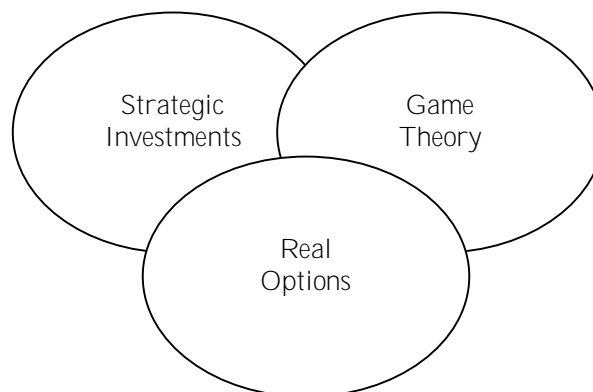
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The objective of this study is to research and analyze the theory of investments evaluation of real options, as businesses strategic decisions. The purpose is to develop a model with simulated variables, derived from the Real Options approach in the financial management process of evaluating strategic decisions.

In this sense, the study will also be taking into account competitors decisions which interfere in the profitability and risk of investment businesses projects. The context of this type decision is visualized in the following Figure 1 presenting the relevant integrating areas of knowledge chosen in the study subject.

Figure 1- Strategic System of Investments Evaluation



The system indicated in the Figure 1 presents the relevant interrelated components of strategic investments, game theory and real options used here as a main framework for investments evaluation. A major concept involved in the interrelated components is flexibility, each day more relevant in a changing environment of business administration. As the competitive environment of business is constantly changing, the need of incorporating flexibility in evaluating projects induces optimization and creation of value.

The challenge is consequently to adequate or to update the conventional methods of decision process, in order to incorporate variables with characteristics of flexibility to secure the opportunity and the right time needed to reach and to implement the investment decision.

The basic conventional method of evaluate strategic investments decision considered here is the Net Present Value (NPV). The NPV leads to the decision of implementing or not the project, if positive or negative, respectively. However, the NPV method can be insufficient when for example the project should be delayed, when the business scenario is changing.

The proposed model in this article will be implemented in a strategic investment of expansion of a Brazilian steel company, providing the company with an appropriate mechanism in order to help it to better evaluate its administrative decisions of strategic investments, fundamentally important for its economic growth.

The study will also bring suggestions and recommendations as the applicability of the approach of Real Options in the Brazilian context with perspectives of new researches and deepening studies in this field of knowledge.

The model will be developed including complementary variables to be used with the method of Discounted Cash Flow named Net Present Value criteria.

These variables will include simulations of flexibility with quantitative information, based on research and statistics, aimed to the development of a model, in order to support businesses strategic investment decisions. Some of the main variables related to flexibility to be eventually included in the model as basic types of Real Options are:

Abandon – option of abandon or terminate a project before the time limit planned to finish it. This option permits the administration to avoid or minimize losses with unsuccessful investments. The explicit recognition of abandon in evaluating a project leads normally to an improvement of the Net Present Value.

Flexibility – option of adding flexibility to the business operations, especially in the area of production. This can be done for example with alternative sources of inputs, use of flexible technologies of production, with new configuration of installations and equipment and acquisitions instead of construction of plants demanding long periods of investments without attending promptly the demand. The anticipated recognition of this option can also improve the Net Present Value of a project.

Growth – option of developing extension or continuation projects, expansion of markets, expansion or new configuration of production installation and projects which have significant potentiality with new perspectives and new openings. The recognition of the cash flows of such opportunities should be done at the time the decision is initially being evaluated. The opportunities of growing the business generally improves its Net Present Value.

Opportunity – option of establishing the time when various initiatives in relation to a project should be taken. This option recognizes the opportunity of delay a project for one or more periods. Also, the project could be accelerated or delayed as to its process of implementation, due to new information available. For example, a project could be suspended temporarily due to the changing conditions of the market or the competition. As with other types of options, the explicit recognition of options of opportunities can improve the Net Present Value of a project.

Finally, with the main objective of creating business value, the above alternatives of real options constitute a major contribution facing market realities, because it takes into consideration the economic conditions of the time the decision occurs and their additional variables. The model objective of this study will include consequently, relevant variables of flexibility, in order to better subsidize the investments business decisions strategies.