ABSTRACT

The rate of economic change is more rapid than ever. Emerging business models are challenging the traditional ways of doing business. Newly unregulated markets are contributing to greater uncertainty. The breakneck pace of change and elevated uncertainty demand new ways of strategic thinking and new tools for financial analysis. Real option are at the core of such a strategic and financial framework.

The real option approach applies financial option theory- the best known form is the Black-Scholes model- to real investments, such as manufacturing plants, line extensions, and R&D investments. This approach provides important insights about businesses and strategic investments insights that are more important than ever given the rapid pace of economic change. It is best viewed as a complement to standard DCF analysis. For those comfortable with DCF, real options have substandial intuitive appeal. By adding an important dimension of analytical flexibility, real options allow for a better melding of strategic intuition and analytical rigor. Another approach that would like to suggest the binomial option-pricing model which also is currently the most widely used real options valuation method. This approach describes price movements over time, where the asset value can move to one of two possible prices with associated probabilities. It is not necessary to delve into the math to intuitively understand how the binomial model works. Most traditional businesses can be valued using DCF, as the general focus is optimization – doing things better today than yesterday. Emerging businesses are best valued using real options, as the focus is on "the next big thing."

This paper will provide the basic concept of real option which comparing with the traditional approach – payback method, DCF (NPV) and IRR. All these three methods are mostly used in the capital budgeting analysis. The methodology of real option is included in this paper in the next part. It will provide the reader to understand how to calculate the option value both for the continuous project and the discrete project. To see how real option can apply with the project. We use the new product development project as the base case to study the real option approach. As the project that we use as base case is the higher profitability project it won't see much different in both approach. However, we suggest the management to consider the real option approach as the supplementary tools for the investment decision making.

Finally, this paper provides the binomial model simulation that was constructed to value the option as the supplementary tool for management to apply with other project for making the investment decision.