

FLEXIBLE BUSINESS PLANS IN DYNAMIC MARKETS: A STRATEGIC APPROACH

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Abstract- Management flexibility has become a relevant issue as the market uncertainty increases. Any plan should address this problem in a dynamic market, within limited budgets. Therefore we intend to evaluate the extent of a business plan to adapt to changes. The main goal of a business plan is to guide the market profitability and manage additional investments. We will focus on market changes and their impact on the allowed marketing budget. The model is predictive, as it provides insights on the evolution of the business, valuing the potential of a plan to endure a set of likely evolutionary changes. Our results emphasize the value of a multiple milestones business plan, under uncertainty impact and marketing budgets flexibility.

Key words - business plan; marketing budget; uncertainty; flexibility; milestones.

Introduction

Business plan evolution is a process that aims changes in the market and additional value to a company. The value comes from the flexibility of the business plan in leading with the market change, for example, upon changes in marketing investments. Flexibility into the business plan will make it more adaptable than the original fixed version. The more flexibility in responding to future market changes, the more successful the business plan evolution is likely to be. The added value is attributed to the flexibility and the alternatives created over the evolutionary milestones of the plan. The flexibility takes the form of adaptive marketing budget through enduring rapid changes in marketing features, to improve the competitive position of the company.

Specifically, flexibility adds value to business plan in the form of alternatives that give the right, but not the obligation, to evolve marketing costs and enhance the opportunities for strategic growth. In a business plan, market behaviour changes are a major source of uncertainty that confronts the plan during its lifetime (duration between the first approach and the final milestone). We contribute to a predictive approach in business plans evaluation. We examine critical likely changes in the market and value the extent to which the business plan is flexible in enduring these changes, by adapting the marketing budget. We look at investment in a business plan as an initial investment plus future investments in marketing effort. For a likely change in marketing investments, the model values the flexibility of the business plan to accommodate the change.

Briefly, the approach considers the business plan as a way to think about strategic marketing investment decisions, guided by the evolution of the market and potential opportunities. The model intends to answer the following key question: how much worth is buying

flexibility to support the business plan potential growth, by managing marketing budget?

The managerial problem, for which we address our investigation, relies on the fact that a business plan is going to be executed in a dynamic and stochastic working environment.

Literature review

Marketing budget is a critical resource that should be adapted according market evolution. Following Miles and Snow [1], the right link between the environment characteristics, mainly the uncertainty [2], at each moment, and the business strategy orientation can increase performance [3-6]. Under uncertainty pressure, companies tend to react and adapt themselves using risk management tools [7-9] or by sense-making activities [10].

It is important to note that traditional plans, in some cases, are actively misleading as they are based on the definition of past problems [11], therefore, despite knowing the assumptions, firms must react, by anticipating actions, when fixed models are no longer a relevant decision guide [12].

As competitive markets are becoming more turbulent and the dynamic of changes is increasing, managers should embrace a more flexible learning process that enables them to adapt the plans in each moment [13]. We will consider these moments as the business plan milestones. The strategy to wait can be a barrier, for example, by not adjusting marketing costs in markets that show growth dynamic. In actual context, instead of prior strategic analytical planning [14], managers should be able to evaluate and react to new situations, by adapting the business plans together with a new strategy. Market understanding is a necessary prelude to any strategy formulation, enabling the firm's reaction to unpredicted

factors that can influence change [15, 16], so that managers can develop responses to assure or improve the established goals.

Several environment scanning definitions have been proposed, for example by Morgan and Hunt [17]. The relevant question is how firms can manage perceived uncertainty about the future of the external environment and what is the capacity to adjust the marketing investment effort in the coming milestones? For overcome uncertainty, firms can use the scenarios planning, based on the awareness of possible results [17]. Other writers [18-21] have offered different definitions of scenario planning. For example, Schoemaker [22] suggests that scenarios provide a conceptual framework to know and understand the external environment. This notion is also supported by Verity [23], who views the benefit of scenario planning to the individual as their improved understanding of the state variables that may influence the future of the firm, and the possible uncertainties within the external environment. For Wright and Goodwin [24], past events in a scenarios scheme can anticipate how the future will unfold. These past events results can be seen as new information that impacts on the decision process, which in turn can lead to early contingency action facing an unfavourable future, or grasping any potential business opportunity. Despite the positive exposed opinions, Becker and van Doorn [25] presented some remarks on the scenarios planning, suggesting that it is difficult to communicate the results because there are complex assumptions and techniques to evaluate their effectiveness. This was also defended by Verity [23], suggesting that scenarios planning is not widely used because the methodologies are difficult to understand. For Ralston and Sampaio [26], scenarios planning treat the major uncertainties as a set of assumptions based on past trends, which, according to Goodwin and Wright [27], are unlikely to produce reliable plans. Scenarios techniques have been available as strategic tools for thirty years, but failed to become widely used by business managers. The technique is very flexible and this enhances misunderstanding among managers, considering the purpose it serves and the addressed business questions. We will refer to one of the most important part of a business plan, the capacity to revise it using the established decision moments (milestones).

Milestones, in a business plan, can be seen as decision point about the continuity of a project and the conditions to support it, eliminating ambiguities and information gaps [28-29]. Scenarios planning allow speculating rather than a single plan [30]. For Fikes, Hart and Nilsson [31], managers must be able to adapt their plans during execution, meaning the capacity to be flexible. For Ambros-Igerson and Steel [32] and Olawsky and Gini [33], a relevant part of any plan is the execution, meaning the capacity to act and take decisions as the plan is running and new information arrives [34]. As new information is available, managers should be able to adjust the alternatives [35]. For Courtney [36], the uncertainty can have different levels of influence in a

scenarios planning; for the worst case, a range of possible situations cannot be identified and so, flexibility in managing plans is of major importance.

Methodology

A call option gives the right to acquire an asset of uncertain future value for the exercise price. Accommodating a change in marketing strategy is analogous to buying a business plan potential (an option on an asset) with uncertain future value, paying for that an exercise price. The exercise price corresponds to the additional marketing costs. The value of the call option, is a measure of the business plan flexibility in unlocking potential future opportunities, enhancing the value of the business plan, by promoting positive alternatives or avoiding losses (in case of a disruptive changes).

We assume that the first goal of a business plan is to guide the marketing investments evolution. The changes could be considered as a major source of uncertainty that derive the investment in marketing costs. The uncertainty might be due to changes in customers' preferences, expectations or new market demands. The differences between our model, financial options and real options on projects are presented in table 1.

We assume that the business plan potential of a given market is V . As the market evolves, a change in future marketing requirements i is assumed to buy x_i of the business plan potential, with a follow-up investment cost of C_i , where C_i corresponds to an estimate of the likely cost in marketing to answer the change in requirements and C_0 is the initial marketing costs. This is similar to a call option to buy x_i of the base project, paying C_i as exercise price. In this form, the investment opportunity in the market can be viewed as an upfront investment, denoted by V , plus options on future opportunities, where a future opportunity is the investment to accommodate future marketing requirement(s).

The payoff of the constructed options gives an indication of how valuable the flexibility of a business plan is to endure likely changes in marketing requirements. The value of a business plan (BP), which accounts for V , considering δ milestones and both the expected value and exercise cost of accommodating likely changes in marketing requirements i 's, for $i \leq n$, can be written as:

$$BP = E[\max(V - C_0, 0)] + \left(\sum_{i=1}^{\delta} E[\max(x_i V - C_i, 0)] \right)^{-(\delta-1)} \quad \text{Eq.(1)}$$

Where, $x_i \cdot V$ corresponds to the value of the business plan potential in accommodating changes. In this context, we consider the business plan as a portfolio of alternatives. More specifically, we view the business plan as a portfolio of marketing requirements. We argue that the value of the business plan corresponds to the value of the marketing requirements it supports, or tend to support, during its milestones development. The nature of the

marketing change determines the dimension of the business plan potential; C_i is the exercise price and corresponds to the marketing investment in realizing the mentioned change, and σ is the volatility, which corresponds to the fluctuation of the business plan potential value.

For a likely change in milestone δ , if $x_i.V : E[\max(x_i.V - C_i, 0)] \geq 0$, then the flexibility of the business plan relative to the marketing change is likely to payoff, if the change is exercised. This means that the business plan is said to be potentially growing with respect to change i . In real situations, the shareholder is interested in selecting a business plan that maximizes the yield in options relative to some likely marketing changes. An option selection could be done when the value approaches the maximum, indicating an optimal payoff in investment flexibility. The opposite, if $x_i.V : E[\max(x_i.V - C_i, 0)] < 0$, then the business plan flexibility in response to marketing changes is not likely to add value, which can happen when the business plan is flexible but managers don't use it, or the business plan is inflexible relative to the change. In this case, the cost of accommodating the change is much more than the cumulative expected value of the business plan.

Having set the flexibility of the business plan, in responding to likely changes in marketing requirements, as an optimisation problem, the challenge is how to value such flexibility. We build a simple and intuitive analogy with Black and Scholes model to value the business plan flexibility. We formulate the business plan dynamic model. The application of Black and Scholes offers a closed and easy form to compute solution, for it we assume that $x_i.V$ is lognormally distributed.

$$CALL = E[\max(x_i.V - C_i)] \quad \text{Eq.(2)}$$

The expected value of a European call option is given by $E[\max(x_i.V - C_i)]$, where E Denotes the expected value of a European call option, $x_i.V$ denotes the stock price at maturity and C_i is the exercise price. In a risk-neutral world, $\ln(x_i.V)$ has the following probability distribution given by,

$$\ln(x_i.V) - \varphi \left[\ln(x_i.V) + \left(r - \frac{\sigma^2}{2} \right) (T-t), \sigma \sqrt{T-t} \right] \quad \text{Eq.(3)}$$

Where σ stands for the volatility, r is the risk free rate, $T-t$ accounts for the number of milestones in the business plan period (time to maturity), and $\varphi[m, s]$ denotes a normal distribution with mean m , and standard deviation s . The Black and Scholes valuation of a European call option is represented by:

$$N(d_1)x_i.V - N(d_2)C_i e^{-r(T-t)} \quad \text{Eq.(4)}$$

Where,

$$d_1 = \frac{\ln\left(\frac{x_i.V}{C_i}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t)}{\sigma \sqrt{T-t}} \quad \text{Eq.(5)}$$

$$d_2 = d_1 - \sigma \sqrt{T-t} \quad \text{Eq.(6)}$$

and $N(\cdot)$ is the cumulative distribution function of the standard normal distribution.

Problem identification

The company uses a rolling plan philosophy to follow-up the business. The rolling perspective is detailed on table 2. According the management policy, revisions are done three times a year in an adding basis. For each revision (milestone) there is a market follow-up, considering previous targets, and a profit and loss control, including the marketing costs. This philosophy has started in the 90's, but in 2009 under the pressure of the economic crisis and the need to deploy a strict costs control, company decided to suspend the concept and return to a single annual budget period. After one year, the management team faced the need to increase the annual plan review for two periods. Facing different perspectives, one question raised: why the change in the concept and in the review periods?

Numerical illustration

To support our analysis and the main conclusions, we will use a numerical illustration based on an existing industrial company. The company we use has significantly experience in working with business plans for strategic decisions, concerning market and product penetration. The input values are referred in table 3.

Results

[See Table 4]

[See Fig. (1) and Fig. (2)]

We simulated results considering different scenarios for changes and one with no changes (inflexible business plan). Applying our example and analysing table 2, Fig. (1) and Fig. (2), we can conclude that the early revisions can improve the potential value of a business plan: revision in milestone 1 is better than in milestone 2 and 3: as the time for the implementation is higher The number of milestones and the time between them can also improve the business plan value, considering the possible changes in consequence of marketing requirements. We can also conclude that more changes in different milestones account for a higher business plan value. We can illustrate that the business plan potential value increases under high uncertainty levels.

Conclusions

We have demonstrated how the uncertainty, attributed to the likelihood of a change, makes real options' theory superior to other valuation techniques, which fall short in dealing with the value of business plan flexibility under uncertainty.

The major idea of this research is that the business plan flexibility, to endure changes in assumptions and market environment, has value. More specifically, flexibility adds value to the business in the form of options that give the right, but not the obligation, to evolve the business plan, in each milestone, and enhance the opportunities for growth by making additional marketing investments. As flexibility has a value under uncertainty; the value of these options lies in the enhanced flexibility to cope with uncertainty (the evolutionary changes during business plan life). The importance of the concept is that it gives managers the reasoning about the potential value of a business plan, considering different milestones, where alternative decisions can be taken. For generality we contribute to the extension of strategy analyses, informing about the value of a business plan dynamic.

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Table 1 - Comparison between our model, financial and real options approach

Financial	Real option on a project	Valuing business plan Dynamic
Stock Price	Value of the expected cash flows	Value of the likely change
Exercise Price	Investment cost	Estimate of the likely cost to accommodate the change
Time-to-expiration	Time until opportunity disappears	Time-to-release the marketing costs, depending on the number of milestones
Volatility	Uncertainty of the project value	"Fluctuation" in the business plan potential value over a specified period of time
Risk-free interest rate	Risk-free interest rate	Interest rate relative to budget

Table 2 - Business plan framework

Business plan period (year bases)	September – December (year n)	January-April (year n+1)	May-August (year n+1)	September-December (year n+1)
Presentation	x			
Revision 1		x		
Revision 2			x	
Revision 3				x
Revision 1, 2	x	x	x	
Revision 2,3	x		x	x
Revision 1,2,3	x	x	x	x

Table 3 - Input data

Variables	Input values
V	$400 \times 10^2 \text{ €}$
δ	Moment 0 ($\delta = 0$), milestone 1 ($\delta = 1$), milestone 2 ($\delta = 2$) and milestone 3 ($\delta = 3$)
C	$C_0 = 300 \times 10^2 \text{ €}; C_1 = 100 \times 10^2 \text{ €}; C_2 = 80 \times 10^2 \text{ €}; C_3 = 50 \times 10^2 \text{ €}$
x	$x_1 = 133, (3) \times 10^2 \text{ €}; x_2 = 106, (6) \times 10^2 \text{ €}; x_3 = 66, (6) \times 10^2 \text{ €}$
i	No change ($i = 0$), change in milestone 3 ($i = 1$), change in milestone 2 ($i = 2$), change in milestones 2 and 3 ($i = 3$), change in milestone 1 ($i = 4$), change in milestone 1 and 3 ($i = 5$), change in milestone 1 and 2 ($i = 6$), change in milestone 1, 2 and 3 ($i = 7$), change in initial value ($i = 8$).
r	3%
σ	30%
$T - t$	3 milestones; $T = 3; t = 0$

Table 4 - Scenarios for marketing costs changes and business plan values (10^2 euros), for different uncertainty levels

Milestones	$\sigma = 5\%$	$\sigma = 10\%$	$\sigma = 20\%$	$\sigma = 30\%$	$\sigma = 40\%$
Inflexible Plan					
No changes	142	178	235	278	310
Flexible Plan (single changes)					
Milestone 1	182	218	276	319	350
Milestone 2	171	207	265	308	339
Milestone 3	158	194	252	295	326
Flexible Plan (multi-changes)					
Milestones 1,2	212	248	306	348	380
Milestones 2,3	188	224	281	324	356
Milestones 1,2,3	229	265	322	365	396

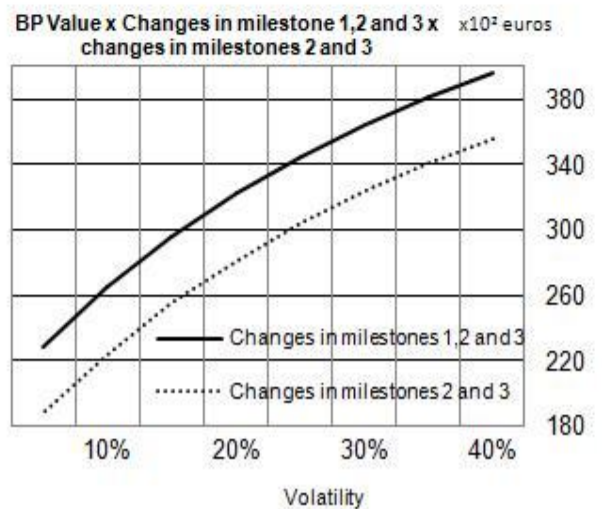
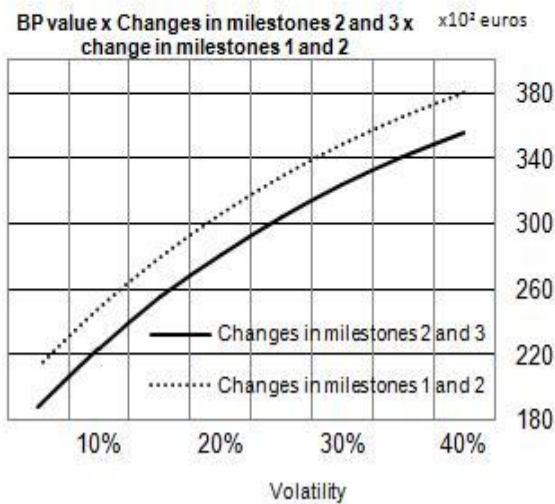
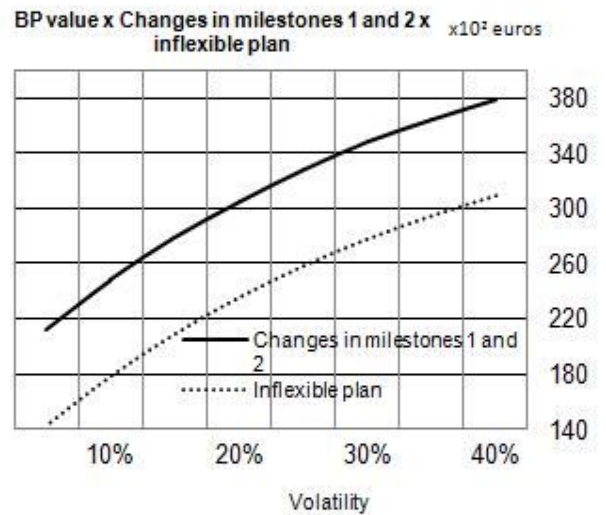
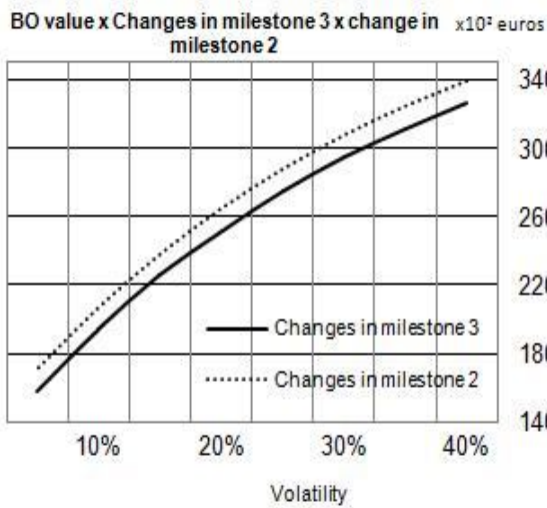
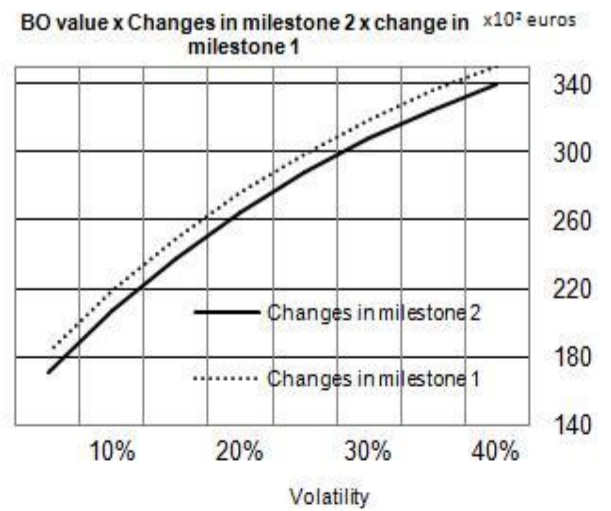
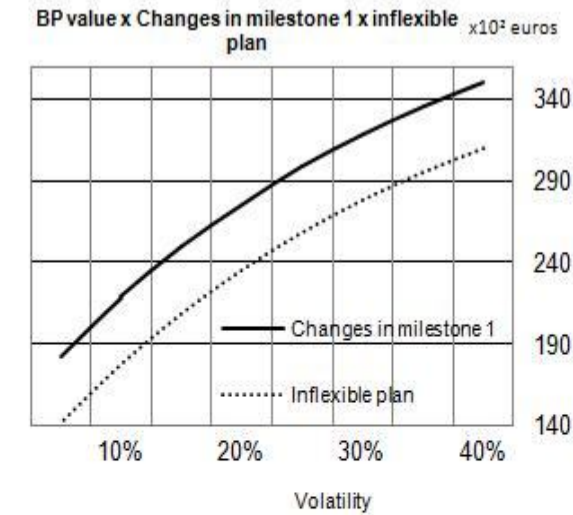


Fig 1.

Fig 2.