

## **Value Creation in the Connected Economy**

Jean-Florent Rérolle

Under increasing pressure from the international financial community, businesses are focusing their attention on shareholder value. However, despite this general mobilisation, it seems that, more and more, the mechanics of value creation diverge from the economic rationale which they are supposed to obey.

The extraordinary growth of the financial markets over the past several years seems unreal. The behaviour on the stock exchanges of high technology companies or of Internet-related companies reinforces this sense of malaise. Finally, in the midst of the general euphoria, directors of businesses whose performance on the stock exchanges is merely mediocre question the ability of investors to take into account the basics of their businesses' being.

We find ourselves today, therefore, in a paradoxical situation : at a time when, in spite of everything, businesses actively want to enter into a voluntary process of value creation, the characteristics of the new economy make this difficult to achieve. These characteristics, the subject of a recent book *Blur, the speed of change in the connected economy*, S. Davis and C Meyer, Addison Wesley, 1998 , are speed, connectivity and the increasing importance of intangibles. These three phenomena combine with and sustain each other in such a way as to challenge the entire classic economic logic on which our mindset was based.

In fact, these changes cause our traditional analytical techniques to waver, and complicate the collection of information necessary to their running. For businesses to adapt to this new situation, they will need to seek out a better osmosis with the financial markets and improve their procedures for strategic execution.

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#### **Challenging the traditional approaches**

For several years, there seems to have been a consensus on the methods which need to be applied in order to measure the value of a business. The technique of discounted cash flows *Valuation : Measuring and managing the value of companies*, T. Copeland, T. Koller, J. Murrin, McKinsey & Company, Wiley, 2nd edition, 1994. has established itself as the most rigorous. Most frequently, starting from the company's business plan, this consists in

discounting future cash flows before financing economic flows with the average weighted cost of capital - which represents the required rate of return of business's capital providers. The terminal value is calculated using as start-point the general hypothesis that the competitive advantage of the business disappears at the end of the financial planning model. Financially, this results in the hypothesis of an economic return equal to the cost of capital. In spite of this conservative approach, which ensues from the law of decreasing returns, the terminal value generally represents more than 80 per cent of the total value of the business.

The EVA method™ *The quest for value*, B. Stewart, Harper Business Press, 1991. is a variant of the preceding technique. Applied appropriately, it gives the same result as it follows the same logic : the value of a business is equal to the value of its current assets, to which should be added the value arising from its future strategic choices. This second part depends on interest rates, on the return of new investments, on the cost of capital and on the duration of the competitive advantage during which the return on investments is higher than the cost of capital.

However, two essential components of value are becoming more difficult to measure in the new connected economy : the duration and the scale of competitive advantage.

#### ***The uncertain duration of competitive advantage***

In an information economy characterised by speed, intangibles and connectivity, something strange happens to the classic, « universal » law of decreasing returns, on which a very large part of our current valuation methodology is based : it no longer applies ! « Increasing returns and the new world of business », Brian Arthur *in Harvard Business Review*, July-August 1998. The examples of Microsoft or Sun Microsystems demonstrate this quite clearly.

This law is overturned by networks and connectivity which make simple, cheap co-ordination possible. Similarly, the transport costs of intangibles, which make up an increasing portion of exchanges, are nil, and do not increase with size. If the cost of manufacturing a software package is considerable at the outset, its reproduction and transmission cost next to nothing. The challenge for a high technology business is therefore to create a standard, whilst at the same time extending its market share in such a way as to lock its clients in place. Partners which offer complementary products or services in turn contribute to reinforcing this standard, and the value of the entire network increases.

The law of increasing returns seems likely to extend rapidly into many other economic sectors, in addition to those linked to information technology. Indeed, the share of intangibles and software constantly increases within modern products and services. With the increasing importance of speed, connectivity and intangibles, the need for standards will increase ... and will make the calculation of terminal values more and more tricky.

#### ***An unstable competitive situation***

The financial expression of competitive advantage (the spread between economic return and the cost of capital) is also dramatically challenged to its

core.

The consequence of the increased fluidity of real markets - which can be seen, for example, in price fixing in real time for an increasing number of products or services- will be the strengthening of the power of the consumer, the weakening of competitive positions, and, finally, the destabilising of economic return. Naturally, this situation will not be without effect upon the value of businesses : the volatility of competitive advantage will help to heighten the violent movements which were sometimes, and have been recently perceived in the market price of businesses Cf. the major variations in the market price of Netscape and Microsoft reflecting sudden developments in their struggles in the courts and with competitors. and to accelerate the phenomenon of the value migration *Value migration*, Adrian Slywotzky, Harvard Business School Press, 1996. among companies, industries and countries.

The cost of capital, which is generally considered to be fixed during the forecast, has also been weakened. In a world where innovations occur with increasing rapidity, the use of the classic techniques for quantification of risk becomes less convincing : the Beta Not to mention the methodological and theoretical difficulties regularly raised by financial researchers. coefficient, which represents the systematic risk of assets, ought to be very weak at the commencement of an innovative project (though it is difficult to see why its volatility should be partially linked to market volatility), and gain in strength as it progresses towards commercial success.

Conversely, the progressive rise in the market value of shareholder equity and businesses' tendency to limit their use of financial debt for reasons of strategic flexibility, lessens the financial leverage of businesses and reduces the importance of the present value of future tax shields in their market value. The use of an average weighted cost of capital which automatically incorporates the impact of these savings according to a predetermined lever (a target financial structure is generally utilised) is likely to introduce major distortions to the analysis.

### ***Intangible economy***

The new economy does not merely weaken our traditional analytical techniques. It also affects the data used in building our models by introducing non-materiality into exchanges and factors of production. The increasing power of an intangible economy overturns the traditional frameworks of our reasoning.

Which cash flows must be taken into account when a simple exchange (product/service for money) is being replaced by a more complex exchange in which the company and its client transfer to each other tangibles, emotions and information? The emotional power of brands is a determining factor in the value creation (cf. Harley-Davidson, Adidas, Coca-Cola, etc.), and advertising is not the only reason for this. The means of transmitting emotion become more and more varied, as is proved by the numerous development models on Internet which seek to create virtual communities (cf. Amazon.com, discussion forums, etc.). How can one put a value on those exchanges where businesses give away their products in order to create a standard ( cf. the navigators or search tools on the Web) or pay their clients in order to obtain critical information on their requirements ?

Way beyond the exchanges of products and services, there is an increasing tendency for businesses to organise their production differently. A new economic logic is taking shape. This favours relational strategies between economic agents, strategies whose consequences are more difficult to quantify than classic competitive strategies. How is one to apprehend ad-hoc alliances (sometimes between two competitors) created in response to a sometimes fleeting opportunity ? How is one to take into account, when calculating the value of Sun Microsystems, its decision to create with eight other partners, a venture fund of \$100 million whose purpose is to finance start-up businesses working on software packages linked to the programming language Java ? By this decision, Sun Microsystems is looking to extend its standard whilst letting the market to decide how its product is to evolve. In general, it is important to integrate within any reflection on the value creation the quality of the « business web » « The death of competition », James Moore *in Fortune*, 15 April 1998. created by the business.

### ***Intangible capital***

The increased share of intangibles in the economic capital of businesses constitutes one of the transformations which overturns the traditional valuation methods. Accounting rules do not take into account the new forms of capital on which the prosperity of businesses currently depends, as is shown by the constant increase in Tobin's q ratio Relation between the market value of a business and the value of its capital. in all marketplaces throughout the world. Hence the capitalisation on the stock exchange of Microsoft is equal to almost 18 times its actual net situation. An essential part of the value of Bill Gates' business does not appear in its accounts, it is elsewhere : it is in the intellectual and human capital of the company and in its growth opportunities which its market share ensures.

A recent study P. Artus, F. Hubert, N. Verlé, Caisse des Dépôts et Consignations, N°98-20, 17 July 1998 has demonstrated that, for French businesses, intangible assets are valued at four times their book value for the previous three years, and that the increase in Tobin's q cannot be considered a speculative phenomenon but should be analysed as the market's capacity to transcend outdated accounting conventions. In fact, high performance businesses understand that tangible assets tend to become « liabilities » in a new economy which demands flexibility and reactivity : it is for this reason that groups like Sidel have chosen to base their growth on massive use of sub-contractors for equipment manufacture, or on outsourcing (of information technology or real estate).

The rise of intangibles therefore makes any projection of future cash flows a very delicate operation, especially bearing in mind the sensitivity of businesses' economic results to any change in the key performance areas Based on a sample of more than 2000 American companies, an increase of 1% of the average price leads to an increase of 11.1% in the operating income, whilst a decrease of 1% of the fixed cost affects the same operating income by only 2.3% (see : « Managing Price, Gaining Profit », M. Marn and Rosiello, *Harvard Business Review*, September-October 1992). . It is true that the discounted cash flow method has always been better adapted to mature industrial businesses than to start-up service companies. However, the limitations of this method, as well as of those methods employing the same

logic (in particular EVA™), are more in evidence in the framework of a connected economy.

### **The new paradigm in the value creation**

In order to reduce the analytical uncertainty which today afflicts the notion of value, new approaches need to be developed. In view of the importance of the transformations in progress, it is doubtful that indisputable, structured approaches will be achieved with any speed. In the meantime, businesses must adapt to this new environment, firstly by seeking to create a better osmosis between the real markets and the financial markets, and secondly by giving greater importance to the new key element in value creation : the ability to execute a strategy.

Although it is not possible for management to measure precisely, from within the organisation, the value created by the business, it does have at its disposal an external source able to resolve this problem in real time in spite of all its hidden complexities : the financial market.

The quest for a better osmosis between the real markets and the financial markets is critical, because the latter not only offer a better indicator of a business's performance but also serve as an irreplaceable guide for management.

### ***Stock prices is a sign of success and a guide for future action***

The hypothesis of the efficiency of the markets supports the affirmation that the stock price is an essential indicator of the quality of a business's long-term management.

This hypothesis is one of the most tested in financial theory, and there is at present a consensus that the markets are « semi-efficient », that is that the market value reflect wholly and immediately all publicly available information.

There are of course a certain number of anomalies but, in the medium and long terms, the market value of a business is indeed the sum of the net present value of the future cash flows expected by the market. Any difference between the two is due either to a difference in perception which can be removed by improved communication, or to a lack of realism on the part of the management as to the real position of their business. It is management's responsibility to broadcast any relevant information and to be sufficiently transparent in its operations to ensure that the market's expectations are correct and that, as a result, the stock price is unquestionably a useful management tool.

In view of the markets' efficiency, it is natural to take the stock price, and especially the financial market share, as the essential measure of the business's current and future competitive position. If, then, the market is recognised as the supreme arbiter, it becomes indispensable to understand the expectations of investors better in order better to satisfy these expectations.

The first level of understanding consists in identifying the expected return of the investor. It is not a question here of cost of capital, but of the future economic return contained, implicitly, in the stock price of the business. Investing in projects which return is greater than the cost of capital and

insisting that the differential be both positive and increasing The classic formula in EVA type activities are not sufficient to create shareholder value. In fact, the stock price of a business represents the anticipated economic return of all future investments. If it appears that these investments (in spite of a positive NPV) will generate a return lower than that originally anticipated by the financial community, the stock price will inevitably fall.

It is therefore critically important for a management to understand, bearing in mind the cost of capital and the value of the business, the economic return and the duration of the competitive advantage anticipated by its shareholders, in order to take the necessary corrective measures (whether these be a change to the signals given to the market, or the modification of the current strategy).

But it is necessary to go further in the understanding of the investors' motivations. Of course, investors examine financial results of a business, but in order to measure its capacity to create competitive advantage in the long term they have also to analyse non-financial indicators.

The examination of this type of indicator by the market is consistent with the practices of businesses which, more and more, are themselves realising that relying on purely financial measures cannot help them to implement their strategy. As Baruch Lev, the American Professor of Finance, has said, to declare that only tangible assets can be valued and that intangible assets cannot is to think that it is only possible to put a value on « things », not on « ideas ».

Amongst the non-financial indicators, which are those preferred by investors ? A study recently carried out by Ernst & Young *Measures that Matter*, Ernst & Young LLP, 1997 in the United States has shown that the deciding factors concern the company's ability to execute its strategy (is the business capable of implementing its strategy, whatever that may be ?), the management's credibility, the quality of the strategy, its capacity to innovate, to attract and to keep talented people, its market share, the management's experience, value-related pay packages, the quality of the business's essential processes.

It is even possible to go further in understanding its shareholders. The study already cited by Ernst & Young has made it possible to develop, using elaborate statistical techniques, a methodology for carrying out a real market analysis in order to identify investors' expectations in respect of one business and to compare these to their expectations of its principal competitors. No-one would even think of launching a new product without carrying out a market analysis. Why should a company behave any differently when it has to deal with financial markets and its sophisticated client/shareholders?

But beyond a permanent research into a better osmosis between the real market and the financial market, a business must excel in implementing its strategy. This, as we have seen, constitutes the key process in the value creation in the connected economy.

Indeed, in our new economy, new models of organisation become indispensable. They will favour adaptability, innovation, flexibility, experimentation and permeability of boundaries, in order to merge better

into an environment which displays similar characteristics *Blur : The speed of change in the connected economy*, S Davis and C Meyer, Addison Wesley, 1998. Real effectiveness will result from the ability of managers to create organisations at the edge of chaos, to resist centralisation and to transfer decision-making to the periphery, where the business's action lies. Such a situation will involve fearsome problems of strategic consistency if a clear goal has not been assigned to the multiple decision-making centres. For such businesses, the *value discipline* is the indispensable compass.

Traditional planning, which has become largely illusory as a result of incessant economic and technological upheavals, becomes secondary to strategic implementation. In order to create value in a connected economy it is necessary to introduce a financial dimension into strategic analysis, to look for organisational and strategic flexibility and to focus on direction rather than on precision.

### ***Introducing a financial dimension into strategic analysis***

The systematic introduction of a financial dimension into the decision-making process makes it possible not only to understand better where value is created and where it is destroyed, but also better to anticipate operational risks.

It is essential that valuation, within the framework of the value discipline, find its true role : that of a tool to assist in the decision-making process. It is less a question of knowing what value is than of making sure one understands how it is made up. From this point of view, the discounted cash flow method proves to be too global to take into account the complexity of the economic environment. A way of improving this is to use the technique of « adjusted net present value » « What is it worth ? A general manager's guide to valuation », T Luehrman, *Harvard Business Review*, May-June 1998, which takes advantage of the additive quality of the different values by splitting apart the different operations and then valuing them separately. This approach is particularly well adapted to calculating the impact of financial leverage on value, for example : after calculating the value of the business without debt (by discounting the free cash flows by the cost of equity), the value of the tax shield is estimated separately by discounting forecast tax savings by the cost of debt before tax. In this way each specific element contributing to the creation of value is analysed - and the decision-makers are enlightened accordingly.

A second approach consists in better anticipating operational risks, by making a point of constructing alternative scenarios on a more systematic basis. However, in practice, it is only possible to analyse a limited number of combinations of variables. The use of Monte Carlo models systematises this alternative scenario approach, making it possible to take all possible combinations into consideration in order to define the statistical distribution of probable cash flows for a project. This type of modelling enables the decision-maker, whether he be financial or non-financial, to assess the extent of the operational risks involved and to take the appropriate actions.

Finally, one of the most promising means of understanding the mechanisms of value creation is provided by the option theory applied to investment decisions. Indeed, in spite of what has been said earlier, the discounted cash flow approach does have some major drawbacks.

First of all, it is necessary, when using this approach, to rely on discount rates, which are notoriously difficult to calculate. In addition, the approach does not take fully into account those cash flows which depend on future events - for example, the profitability of an R&D project depends on the success of the research, and the conditions of the market on the day the project is finally marketable. Lastly, and most importantly, this method does not take into account the management's flexibility. It values projects under development or businesses as if these were fixed bonds, whereas in reality all investment projects, whether implicit or explicit in the business plan, will be modified in some way : a project may be abandoned, postponed, extended or reduced in order to adapt to changing market conditions. This flexibility has a value of its own which the discounted cash flow method ignores, in spite of its being an essential virtue in the new economy.

The use of the real options *Real Options : Managerial flexibility and strategy in resource allocation*, L Trigeorgis, MIT Press, 1996, then, consists in recognising that the value of a business is made up of two components : on one hand, the value of projects already launched and, on the other, the value of its future options (for example, a patent giving the business the right to exploit a market in the future).

***Searching for operational and strategic flexibility***

If the theory of options still poses some practical difficulties in its application, it is nevertheless fundamental to the identification of value strategies. As with a financial option, the determining factors in the value of a real option are : the present value of the future cash flows should the option be exercise (underlying asset), the uncertainty of the future cash flows (volatility), the cost of waiting (dividends paid during the period during which the option is held), the duration of the opportunity for investment (the length of time during which the option exists).

To increase the optional component of the value of a business, the management must first examine these determinants and then take strategic or operational decisions which will have a positive effect on them. The table below *Measuring value in the connected economy*, JF Rérolle, Prométhée, London, 24 June 1998 sets out a number of strategies which work towards this goal :

Determinants of value of financial options	Current Value of underlying asset	Strike price of the option	Variance of underlying asset	Dividend paid on the underlying asset	Time to expiration on the option	Riskless interest rate (duration of the option)
Determinants of value of real options	Present value of expected cash inflows	Present value of expected outflows	Uncertainty of expected cash outflows	Value lost by waiting to exercise	Investment opportunity duration	Riskless interest rate
Management of real options	Increase	Reduce	Increase	Reduce	Increase	Not manageable
	Create	Invest in	Accelerate	Lock-up	Create	

	Business webs with low-cost suppliers	intellectual capital, not on tangible assets	innovation and R&D	critical resources	Business webs with customers
Examples of associated blurred strategies	Create standards and platforms	Design assets to be easily reconfigured	Let the market manage offer	Develop structural capital	Maintain technology lead
	Increase Marketing expenses	Leverage economies of scale	Organize for instability and adaptability	Lock-up customer base	Lock-up distribution channels

Much of these strategies is based on the business's ability to form structural or ad-hoc alliances with other partners, and to invest massively in intangible assets.

***Giving greater focus on direction to be followed***

The new economy has not changed the fundamental mechanisms of value creation. The principles of action are in part unchanged : increase the anticipated cash flow for the future, accelerate their perception, maximise the terminal value. Only one modification is necessary : it becomes less important to reduce the level of risk (to cut the cost of capital) and more important to follow a new prescription, that of mastering or taking advantage of the risk in which the enterprise necessarily evolves.

But, because of the complexity of the environment, it is essential that value creation be followed up not only by financial measures but also by non-financial indicators, thus recognising the importance of intangible assets to the value of our businesses, as illustrated by the table below Ibid. :

Value based management still consists, only too often, merely in setting up one or more financial indicators to rally around, without making the effort to really understand the strategic, organisational and human factors which would enable the business to create value in the long term - whereas in fact these are the factors which should be concentrated upon, once their links with shareholder value have been properly understood.

One of the most effective techniques for identifying these factors is the construction of balanced scorecards for each strategic business unit within a company. This technique, part of a resolutely participative process *The balanced scorecard*, R Kaplan and D Norton, Harvard Business School Press, 1996, consists in creating within a management team a consensus on the strategic aims and competitive advantages necessary to achieve success. The principal actions to be taken from a shareholder/ client/ process/ human resources perspective and their interactions are then identified within the framework of value creation. Finally, a certain number of pertinent indicators are defined, along the lines mentioned earlier. These balanced scorecards are then applied at all levels of the strategic unit.

Three essential remarks must be made on this approach, which is widespread in the United States and which is just making its appearance in Europe. Firstly, that this remarkable tool relies on consensus and enables management to focus on the strategic priorities of the business. The process

of constructing the approach is therefore as fundamental as the result. Secondly, the precision of the data is less important than the general direction which they indicate. Above all, these scorecards make it possible to keep careful watch to ensure that the trend is the right one and that the actions decided on have been effectively carried out. Lastly, they make it possible to set up value-based remuneration systems which are much more realistic (especially on the shop floor level) than those concentrating on purely financial indicators.

### **Conclusion**

The pre-eminence of the financial markets is a basic trend which businesses must not under-estimate. Firstly, the prophesied failure of our European retirement systems will lead inescapably to a situation similar to that experienced in the United States, with their pension funds. In addition, the introduction of the Euro and the globalization of world markets will make comparisons between European businesses much easier, which in turn will highlight the intensity of their struggle for financial resources : the situation of the more mediocre will inevitably deteriorate. Finally, the development of the financial markets will benefit from the increased difficulty in attracting talented people without being able to remunerate them with shares or stock options.

All these factors will increase the legitimacy of the markets and will make it possible to put forward either the stock price, or the total shareholder rate of return, or even the financial market share of the company, as advanced indicators of its future competitive position. As the classic techniques and tools used to measure value weaken, the importance of the markets' assessment will continue to increase.

This market logic should not have too much difficulty in establishing itself, when one observes how the operation of the real markets becomes progressively more and more similar to that of the financial markets, in particular in the areas of price setting, quality and quantity, and in the rapidity with which information is exchanged between consumers and businesses.

Confronted with an environment which it is less and less possible to control, businesses will have no other choice than continually to experiment and to renew their relationships both with their clients and with their shareholders, in order to satisfy them better. It is this change, at once conceptual, cultural and organisational, which the Discipline of Value Expression used by Ernst & Young to describe « Value Based Management » (see *Business Digest* dated March 1998) invites you to make.