IS EVA AN IMPORTANT FORECASTING TOOL FOR KNOWLEDGE-BASED ORGANIZATIONS IN ECONOMIC CRISES TIME?

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Abstract

Nowadays we may observe that all the economies are passing through financial and economic crisis. How can move from high economic growth in the crisis? Here is a question that sits on many lips. In European Union recession is spreading, not to mention the U.S., where the financial crisis is feeling more acute.

Keywords: forecasting, economic value added, cash flow

JEL Classification: M41, M21, G01

1. Introduction – what happen, way and what can we do in a crisis time?

The world is in financial turmoil. Anyone who has watched the evening news or read the press in the last few weeks is aware of this fact, and it affects everyone. All this happens when the world is facing a serious economic and financial world crisis. In countries that have adopted and where operate relationships based on liberal principles of organizing society, where market economy has been proclaimed a priority for economic development, hundreds of millions of people have become hostages of the banking system, of financial-lending policies and of securities market. Bank deposits, securities - all people savings accumulated for the welfare and future plans - are now in danger.

The effects of financial crisis, which converts every day in a large economic crisis, is spreading with amazing speed, over-and across international markets. Lately economic crisis shown on the world market can be seen in Romania. So both, macroeconomic and the microeconomic level can feel the economic crisis effects. Global economic crisis is rising every day, and Romania starts to feel more and more the economic recession, to which the great economists of the world fail to find the antidote. We can see, on the one hand, the companies that contracted loans for development and for other needs will wake up with inability to pay back these loans, concomitantly with the impossibility of payment of suppliers, especially for those who have to pay in foreign currency.

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2. What Is EVA?

In conditions in which economic crisis manifests more and more acute, the consequences being felt by the majority of Romanian companies, managers want to know the areas in which it is profitable to invest and what future benefits would arise from such investment. We consider that one effective forecasting method in terms of economic and financial crisis can be EVA - **Economic Value Added**.

Economic Value Added - EVA™ - can be determined starting from the net profit of operating activity or from net cash flow of the operation, minus the cost of invested capital. It is often called economic value added / future economic benefit (Economic Value Added, EVA) or economic profit or residual earnings.

To calculate the economic value added of an organization, are used the company balance and profit and loss account.

The calculating method of the indicator is:

Net Profit

-

Cost of invested capital

=

Economic Value Added

therefore

$$EVA = PN - CKI \quad [1]$$

where:
PN – Net Profit (Net operating profit after taxes);
CKI - Cost of invested capital

To calculate the economic value added can also use the following formula:

$$\textbf{EVA = (ROI - WACC) x Invested Capital} \quad [2]$$

where:
WACC - Weighted Average Cost of Capital
ROI - net economic return rate of business (Return on Investment)

and: $ROI = \frac{PN}{CI}$ [3]

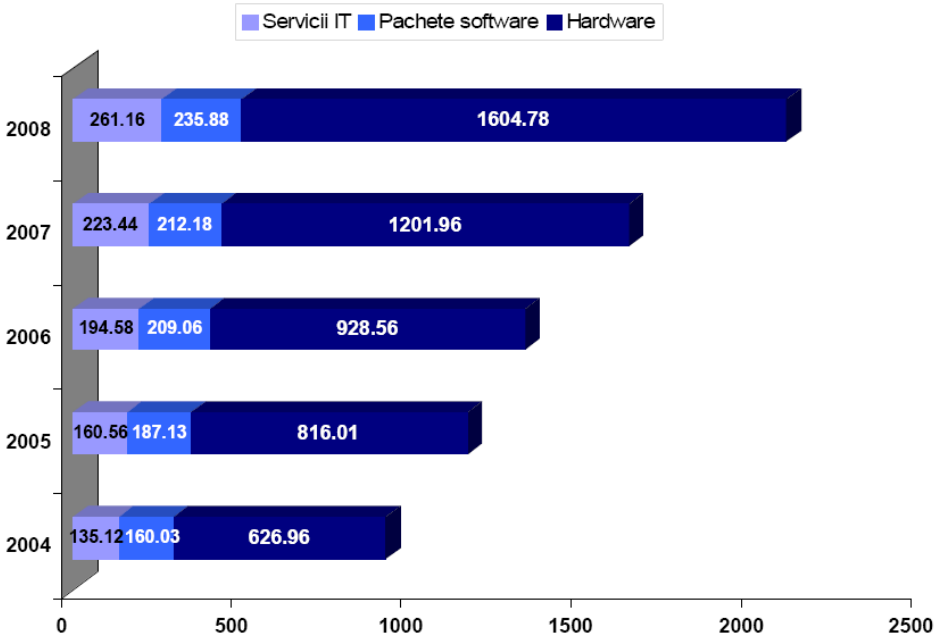
For EVA calculation using the formula above it starts from the premises: the result of operation is not affected by other types of activities (financial and extraordinary), and net profit in this case express correctly the income obtained by the firm from operating activities. Since invested capital is structured usually, on the two components, equity and borrowed capital, in equation must be introduced elements which expresses the cost of own capital invested and the loans made to supplement the cost of own funds. Given these factors the cost of capital invested in the business will depend on the size of invested capital (IC) and the weighted average cost of capital (WACC) which on his turn is influenced by the weighted cost of different sources of funding Business [Burja, (2005)].

We had used for example S.C. NetActive S.A.[1]. We chosed this company because we believe that IT company fits best in characteristics of societies based on knowledge (innovation, increase the proportion of intangible assets within the organization, investing in training, in employment, learning throughout life, protection and revaluation of intellectual capital, developing an open culture, developing internal knowledge base and expanding links with customers, suppliers and external human resources, outsourcing of activities that are not essential to the company, strategic development of company through increasing the depth and/or widen of business knowledge, etc.).

In the past five years, local IT market has known a significant increase, from a value of 922,11 million euros in 2004 to 2101,81 million euros (2,1 billion euros) last year. Thus, in 2008, the hardware market has registered a value of 1604,78 million euros (1,6 billion euros), software market registered 235,88 million euros and IT services market 261,16 million euros. Local market of IT services in 2008 had a value of 261,16 million euros, up to 16.8% over 2007, when it recorded 223,44 million euros (Figure no. 1) [Oprea, (2009)].

[1] To keep confidentiality was renamed the company and data taken from the company's financial statements have been multiplied by a coefficient in order to maintain progress and actual trends of indicators.

Figure no 1. IT market in Romania (million)



Source: Oprea M. I., (2009), The IT market in Romania reached 2.1 billion euros in 2008, http://www.newschannel.ro/stiri/piata-it-din-romania-a-atins-2-1-miliarde-euro-in-2008

NetActive company was in top of web publishers and the 25 sites in the portfolio covers various categories, depending on market requirements and needs of Internet consumers. SC. NetActive SA has gained a reputation as a market leader in the segment of young people aged between 17 and 29 years. The main sites means over 100 million pages opened monthly and nearly 14 million visitors, according Trafic.ro.

The premises from which starts the evaluation of investment in creation of websites using EVA method are:

- first year of investment is considered in 2009
- the tax is considered by 33%
- capital value is 37291 $
- company debts are 4 000 $
- WACC = 14,565%

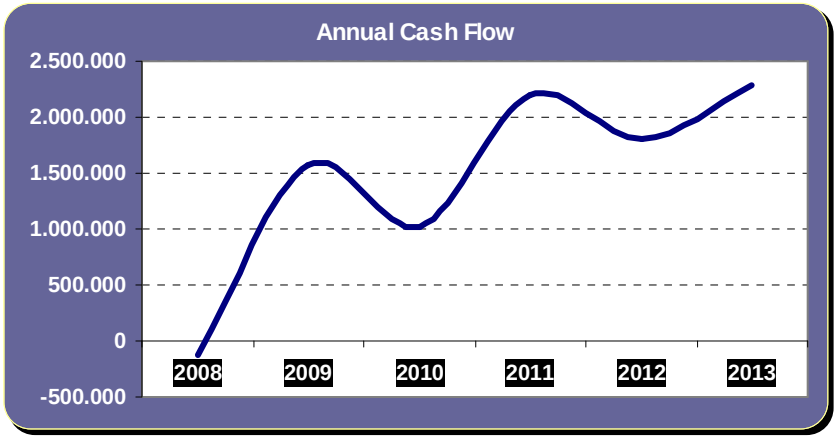
The company`s power is reflected by its ability to continue economic growth, by efficient use of its economic resources.

From analysis of accounting impact of the investment may find that net profit estimated through economic value created have increased in time, registering profits amounting to 13887512 $, but the net profit indicator has a value of 8743473 $ -

indicator that expresses the real situation of economic and financial performance of the company. We also note that in the years 2011 and 2012 EBITDA and EBIT indicators shows significant increases (table no. 1).

Cash Flow Analysis (table no. 2) shows an increase in disposable money over the five years analyzed. This upward trend is captured also in Figure. 2. We can see that starting from a negative cash flow in 2008 (-126946 $), the cash flow increased to 2188189 $ in 2010, reaching a maximum rate in 2013 (2279475$).

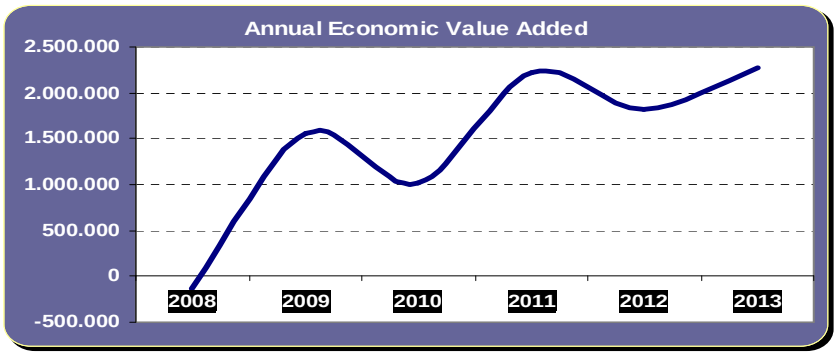
Figure no 2. Annual Cash Flow Analysis



Source: graphic designed by authors

Cost of capital represents the payment expected by investors for capital invested and for minimize the risks arising from investment. In 2008, WACC = 14.565%. Positive trends of EVA (Figure no. 3) shows a significant increase in time of economic profitability, reflecting a profitable use of capital employed in business. The higher value of EVA is, higher more the market value and the value of company shares. If in 2008, EVA has a negative value, resulting in a low economic return, in 2009 there is a significant increase of the indicator (EVA = 1563963), the company reacheing a maximum level of profitability only in 2012 (EVA = 2214458) - Table. no 2.

Figure no 3. Annual Economic Value Added Analysis



Source: graphic designed by authors

Table no. 1 Analysis of investment accounting impact

$000	**Accounting impact**	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	**Total**
	Total income	0	2.503.840	1.723.296	3.588.619	3.143.962	4.020.021	14.979.738
minus	Expenses	-126.946	-201.202	-178.152	-326.731	-407.596	-613.488	-1.854.115
	EBITDA	-126.946	2.302.638	1.545.144	3.261.888	2.736.366	3.406.533	13.125.623
minus	Accounting depreciation	0	-24.586	7.964	-4.547	-13.458	-13.272	-47.899
minus	Goodwill depreciation	0	644	644	-1.683	-1.683	-1.621	-3.697
	EBIT	-126.946	2.278.696	1.553.752	3.255.658	2.721.225	3.391.641	13.074.027
minus	Interest costs	0	0	0	-79	-183	-180	-443
minus	Tax paid	0	-725.607	-517.942	-1.100.144	-909.128	-1.128.123	-4.380.944
	Net profit B4 Ab. Items	-126.946	1.553.089	1.035.810	2.155.435	1.811.914	2.263.338	8.692.640
plus	Profit from disposal of assets	0	0	-452	33.099	18.186	0	50.833
	Net profit	**-126.946**	**1.553.089**	**1.035.359**	**2.188.534**	**1.830.099**	**2.263.338**	**8.743.473**

Source: calculations made by authors

Legend:
EBITDA[1] – Earnings Before Interest, Taxes, Depreciation and Amortization
EBIT – Earnings Before Interest, Taxes
EBIT = Income - Expenses

[1]*** (2008), What is EBIDA?, http://www.financiarul.ro/2008/09/13/ce-este-ebitda/.
*** (2008), EBIT and EBITDA, http://www.account.ro/indicatori/ebit-si-ebitda/.

Table no 2. Cash flow analysis

Cash flow analysis	0	2008	2009	2010	2011	2012	2013	Total	Present value of engaged capital after 5 years
Total income		0	2.503.840	1.723.296	3.588.619	3.143.962	4.020.021	14.979.738	
Total expenses	minus	-126.946	-201.202	-178.152	-326.731	-407.596	-613.488	-1.854.115	
Profit tax	minus	0	-725.607	-517.942	-1.100.144	-909.128	-1.128.123	-4.380.944	-11.491
Interest costs	minus	0	0	0	-79	-183	-180	-443	-542
Cash flow for operating		-126.946	1.577.031	1.027.202	2.161.664	1.827.055	2.278.230	8.744.236	-12.034
Tax free income	plus	0	0	0	0	0	0	0	
Cost of capital	minus	0	0	0	-26.521	-34.776	1.245	-60.052	
Receipt from endorse assets	plus	0	0	-1.882	53.046	4.668	0	55.833	39.891
Net cash flow		**-126.946**	**1.577.031**	**1.025.321**	**2.188.189**	**1.796.947**	**2.279.475**	**8.740.017**	**27.858**
NPV of cash flow (5 years)		**5.697.291**	41,0%						
Terminal value		**8.190.221**	59,0%						
Total NPV of cash flow		**13.887.512**							

Source: calculations made by authors

Legend:
PV –Present value
NPV –Net present value

Table no 3. Economic value added analysis

$000	**Economic value added**	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	**Total**	Present value of engaged capital after 5 years
	Total income	0	2.503.840	1.723.296	3.588.619	3.143.962	4.020.021	14.979.738	
minus	Total expenses	-126.946	-201.202	-178.152	-326.731	-407.596	-613.488	-1.854.115	
minus	Profit tax	0	-725.607	-517.942	-1.100.144	-909.128	-1.128.123	-4.380.944	-11.491
minus	Interest costs	0	0	0	-79	-183	-180	-443	-542
plus	Receipt from endorse assets	0	0	-1.882	53.046	4.668	0	55.833	39.891
plus	Economic adjustments	-7.809	-11.931	358	6.431	5.767	4.860	-2.324	3.799
	Economic profit	-134.755	1.565.100	1.025.678	2.221.141	1.837.490	2.283.090	8.797.745	31.657
	Engage capital	0	7.809	19.740	45.903	74.249	67.236	214.937	181.969
minus	Cost of engage capital	0	-1.137	-2.874	-6.683	-10.810	-9.789	-31.293	-26.493
	Economic value added	**-134.755**	**1.563.963**	**1.022.804**	**2.214.458**	**1.826.680**	**2.273.301**	**8.766.452**	**5.164**
	EVA present value	**5.697.724**	41,0%						
	Terminal value	**8.189.788**	59,0%						
	EVA total present value	**13.887.512**							

Source: calculations made by authors

3. Conclusion

As a conclusion we can say that the use of EVA method in Netactiv company has improved the ability for growth interpretation of financial and non-financial factors, were determined to poor areas for developing new plans or improving efficiency strategies, reducing risk and to increase innovation.

We can also mention that not even one method can meet all purposes; the method used should be selected according to purpose, situation and users of accounting information.

As limitations of the method we mention the following:

- the method was tested only on one Romanian company from IT field;
- it was analyzed only in the IT field, other fields not beeing included in the study;

- the method used is a global forecast method, not being able to offer conclusive results by areas (eg assessment of intangible assets in a company) because of lack of relevant indicators for specific analysis of those areas.

Beyond the limits of the method it can be said that this study provides a real and founded diagnosis of an organization based on performance evaluation of knowledge in terms of economic crisis.

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