ENTERPRISE VALUE, MEASURE OF PERFORMANCE MANAGEMENT

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ABSTRACT

Performance management can be measured by financial and non-financial indicators, but those that can credibly quantify it are the indicators that reflect the increasing of the enterprise value (EVA, GW, MVA, NAV, CFROI). Therefore the purpose of management decisions is to increase the value of the company. Nowadays there are economic theories according to which the company management should be led by a single objective, namely the growth of the value of the company[1]. According to authors who based themselves on former studies and other research on this topic[1], there has been shaped the idea that this should be the central objective and all the other objectives like strategy, methods and management techniques should result out of that. Financial performance (NP, FCF, Value added) as a classic reference of efficiency of the activity was replaced in time by the company value, considering that this synthetically indicator takes into account the internal and external risks and the financing costs of the company. The decisions to increase profits, cash flow, dividends are not always the best. Motivation to increase enterprise value is manifested by the shareholders (increase their wealth), managers, potential investors (hopes to have gains), employees (high salaries, good working conditions), creditors (loans, low risk and high yield), customers[1] (low cost, high quality) and state (higher taxes, more jobs).

KEYWORDS: *enterprise value, performance management, Net Asset Value, Economic Value Added, Net Present Value*

Preliminary theoretical considerations

Market competition, profit maximization, higher dividends for shareholders, staff payment, etc. impose companies to produce goods, services, etc. of higher quality, which means in the first phase investments upgrading and expansion. Investments in a company are mainly the result of investment and financing policies regarding the available funding sources (self-financing as a result of profitable business, loans from various creditors, shareholders, individuals, capital increase etc.). These management policies have a direct influence on the company present value (Net Asset Value, NAV = TA – Liabilities or

NAV= Equity + Investments provisions and the direct comparison method EV = P.E.R.* NP) or future value $\left(EV = \sum_{i=1}^{n} \frac{FCF_i}{(1+r_a)^i} + \frac{TV}{(1+r_a)^n} \right)$.

Calculation of the enterprise value and value rise ($\Delta EV = NAV_{n+1} - NAV_n$) based on historical data (NAV) found in the financial statements are at a certain extend incorrect. The values shown are incorrect from the economic point of view, due to observing the accounting principles, methods and rules (the principle of historical cost, the principle of prudence, amortization methods and depreciation adjustments, setting up provisions, failure to register some intangible items whose value can not be estimated reliably etc.).

Using the corrected net assets value (the values of the patrimonial elements used in the financial statements are the market values) would eliminate some shortcomings of the net assets method. But in the case of big companies with large assets it involves the assessment of each part at its market value, which implies additional costs with the authorized assessor and the inability to assess individually the goodwill.

Potential investors and shareholders in the most cases value the development potential of the company rather than their performance history. Recent empirical studies[1] have shown that the financial position, financial performance should be judged based on its usefulness in the prediction of cash flows or in relation to stock-exchange yield. As such, they may not understand at one time the effect of the policies adopted (investment, financing, dividends, business administration), until they do not materialize in additional earnings. Present financial and economic situation, the foreseen opportunities on the labor market, legal opportunities, investor expectations etc., determine the enterprise value judgment through revenues capitalization (revenues that take the form of net cash flows, profits, dividends, EVA) anticipated to be produced in the future. [2]

The high manipulation character of the net profit (NP) through amortizations, provisions, exceptional items, the fiscal policy of the state, led to limited use of this indicator. These drawbacks were eliminated in part by cash flow ($CF_{operation}$ = NP + +Amortization + Depreciation), but considering that it also is the result of forecasts and updates (estimating the updating rate) it has a subjective character, too. Also, the manner of estimating the cash flows differ from one country to another, at present being done efforts to establish precise rules for the estimation of cash flows (SFAS 95, IAS 7). To assess the managerial performance or non-performance we need direct comparisons on the market (enterprise with the same risk class).

In assessing management performance, the present value is not so important (even though its value determine the selection of investments), but if it creates value[3].
Value creation in essence requires higher returns on capital employed than the cost of obtaining it. Capital as a production factor, present in each activity process can be regarded from a double perspective. As from the point of view of usage, the capital employed in the enterprise is the sum of investments value and current net capital (circulating net assets). And, in terms of origin it is seen as the sum of equity (share capital, reserves, etc.), plus the borrowed capital (bank loans, bond credit and other forms of loans).

Given the factors that determine the value of a company, the indicators that measure the value creation can be grouped as: internal (as determined solely by the performance of the firm) and external (MVA). The internal indicator that directly expresses

[1] Cornier D., Magnan M., Zeghal D., „La pertinence et l'utilité prédictive du mesures de performance financière: une comparaison France, Etats-Unis et Suisse", Comptabilité-Control-Audit, tome 7, volume 1, mars, 2001;
[2] The preffered method used by McKinsey&Co, Price Waterhouse Cooper, Marakon Associates
[3] Stancu I. *Măsurarea performanţei intreprinderii* , Economie teoretică şi aplicată, nr 1, 2006, pag. 8

the enterprise enrichment during a given financial year, taking into account not only the returns on the capital employed but its cost, is the economic value added (EVA). The amounts invested by shareholders and creditors are allocated to assets (Economic Assets = Investment + NCC) necessary to run the business. The more these operating assets are efficiently used the higher the net operating profit before taxation (EBIT- PT) will be. For the amount invested, both the shareholders, investors and creditors claim earnings, taking into account the earning opportunities on the financial market. If the returns on operating assets (ROIC) is superior to the weighted average cost of financing (WACC) sources within the company, the value is created (EVA> 0). Otherwise there is a loss of value (EVA <0). According to EVA[1], a financial investment within the company brings the investor not only a positive result but a better result than that on the market (expected by the investor).

$$\text{Economic Value Added (EVA)} = (r - WACC) * CI$$

where: r- return on invested capital. This rate of return ($ROIC = \frac{NOPAT}{CI}$) reflects the ability of the invested capital to evolve a profit needed to the self-financing of the net growth of the company and to pay the capital investors. WACC-weighted average cost of the invested capital;

CI –Capital invested

The EVA indicator can be also calculated as follows:

$$EVA = NOPAT - (WACC * CI)$$

where: NOPAT-Net operating profit after taxation [EBIT (1-t)]

WACC*CI-capital charges

This model can be developed:

$$EVA = Turnover - (OE + IP) - (WACC * CI)$$

According to the factors included in the model, EVA can be defined as operating excess income remaining after the coverage of costs of all factors involved, including the cost of the invested capital. The EVA indicator leads to results similar to NPV, EVA taking the advantage of a more simplified calculation. The analysis of the managerial performance from the investor point of view, namely the added value resulting from the financial year-end compared to the invested capital in operating assets may be highlighted by the net present value (NPV). Although the capital market in Romania is influenced by social, psychological and political factors[2] whose individual influence is difficult to quantify, the many financial analysts, investors, etc. have quantified the financial performance based on the evolution of shares (MVA, TSR).

The Market Value Added (MVA) indicator can be calculated for listed firms as a difference between stock-exchange capitalization (share prices) and book value of equity and in case of unlisted companies as a difference between the present value of profit, net cash flow, dividends , economic value added and the book value of equity.

$$MVA = \text{Market value of equity (MR)} - \text{The book value of equity (NAV)}$$

[1] Steward B., Stern J. –The quest for value, Ney York, HarperBusiness,1991

[2] Bircea I, Bircea N- The Enterprise Value Is A Performance Indicator Of The Managers Activity And A Signal For The Investor, Proceedings of the 6th International Conference on Management of Technological Changes, Alexandroupolis, Greece, 2009, 413 p

MVA indicator is not relevant in the eyes of those who do not believe in quotations.

The studies showed that the shares value of the companies studied depend largely on external factors of company and in a small measure on the financial performance and, implicitly, the management of company. Accordingly, this indicator reflects the added value given by the market to the company.

We believe that the model can better represent the economic reality if instead NAV we use Adjusted Net Asset (ANA). In this case the model becomes MVA = MR-ANA.

If instead of a difference we report MR to ANA we obtain Tobin's coefficient Q (rate). According to this coefficient value, it is highlighted the value excess estimated by the market (the value of quotation) compared to the value of the company determined as a replacement cost of assets (ANA). So, the market certifies the existence of additional value (an intangible asset) related to the deal, but it is not the deal that creates the value, despite the fact that this model suggests so. In fact, the investors through their offer anticipate the achievement of a surplus of profit compared to the potential profit to be obtained from other investments on the financial market (Over-profit = NP -r_a* ANA). In case of unlisted companies, the difference between enterprise value estimated by profitability or direct comparison and enterprise value through the corrected net asset value (market values determined when closing down the business) gives the value of intangible assets that generate added value GW = VR- ANA [1]. We believe that this indicator has a subjective character in assessing the financial performance of a manager given the subjective character in the enterprise evaluation through methods based on profitability.

Managerial performance evaluation at the analyzed firm

Our study will summarize only the indicators that reflect value creation in the company as a result of the management as well as identify those that in the actual conditions of Romania better reflect the value creation. The theory presented is supported by a case study in an unlisted company "X" SA. . Company has issued 1,500 shares at par value of 10 Lei / share.

Working assumptions:

a) Initial equity capital inflow at the beginning of year N is 15,000 Lei
b) The opportunity cost of capital takes into account the return on government securities (30%) and external and internal risk estimated based on the diagnosis (25%);
c) The business life cycle is estimated for a period of three years[2], after which the company assets will be sold for the amount remaining to be recovered (recorded in the accounts[3])
d) After one year the management activity is evaluated.

[1] Bircea Ioan, *Evaluarea intreprinderii*, Editura Dacia**,** Cluj Napoca**,** 2005, 357 p

[2] If it is estimated that the company operates a long period, and net flow since N + 3 is reproducible during the life cycle, the terminal value is determined by its capitalization (VT= $\frac{NCF_2}{r_c}$).

[3] The life cycle of the sold product is estimated to 2 years and the estimated depreciation is insignificant for the time period.

Balance sheet in the three years under study

Table 1

Assets				**Equity and debts**			
Years	**N**	**N+1**	**N+2**	**Years**	**N**	**N+1**	**N+2**
Investments	8,000	24,000	20,000	Equity	15,000	15,000	15,000
				Net Profit (NP)	11,760	14,032	21,739
				Allocated profit	11,760	14,032	21,739
Stocks	500	1,000	1,500	Reserves	9,408	20,634	38,025
Claims	500	1,200	2,000	Long-term debt	0	10,000	0
Current assets	17,468	25,448	35,676	Liabilities	2,060	6,014	6,151
Total	26,468	51,648	59,176		26,468	51,648	59,176

Profit and loss account in the three years under study

Table 2

Profit and loss account forecast				0			
Expenses				**Revenues**			
Years	**N**	**N+1**	**N+2**		**N**	**N+1**	**N+2**
Monetary cost	14,000	16,335	18,840	Turnover/ sales volume	30,000	39,040	50,720
Amortization	2,000	4,000	4,000				
EBIT (Earnings before interest and taxes)	14,000	18,705	27,880				
Interests	0	2,000	2,000				
Profit tax	2,240	2,673	4,141				
Net profit	11,760	14,032	21,739				

Simplified Balance sheet to reflect the capital employed

Table 3

Assets	8,000	24,000	20,000	Equity	24,408	35,634	53,025
NCC (necessary working capital + current assets)	16,408	21,634	33,025	Long-term debts	0	10,000	0
AE	24,408	45,634	53,025	CI	24,408	45,634	53,025

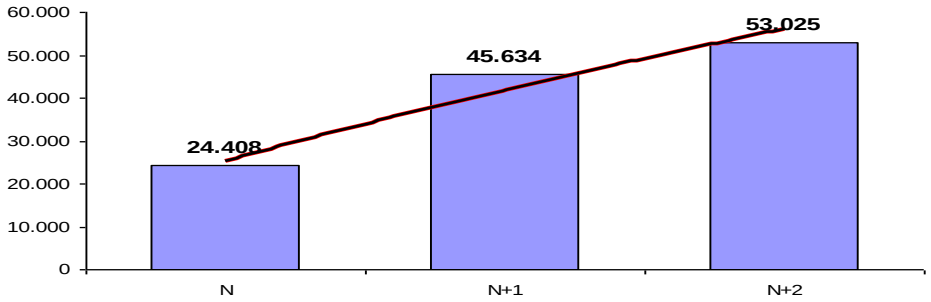

Figure 1 Evolution of Capital invested

The trading company distributes as dividends 20% of net profits, the rest is allocated to reserves, increasing self-financing.

The dividends evolution

Table 4

Nr		N	N+1	N+2	Relative growth N+1/N[%]	Relative growth N+1/N[%]
1	Dividends	2,352	2,806	4,347	19.3	54.9
2	DIV/nr. of shares	1.56	1.87	2.89	19.3	54.9

Both profits and dividends grow annually which sent a positive message to the financial markets (potential investors), bring the shareholder satisfaction, assure creditors and as a consequence, the shares market value should increase. The increase of the dividends, thanks to profit growth, is higher at the branch level.

The company value through NAV

Table 5

Nr	Component	N	N+1 est.	N+2 est.	$I^{\Delta}_{N+1/N}$	$I^{\Delta}_{N+2/N+1}$
1	Book value (NAV)	24,408	35,634	53,025	46	49
2	Book value per share ($\frac{NAV}{shares}$)	16.3	23.8	35.4	46	49

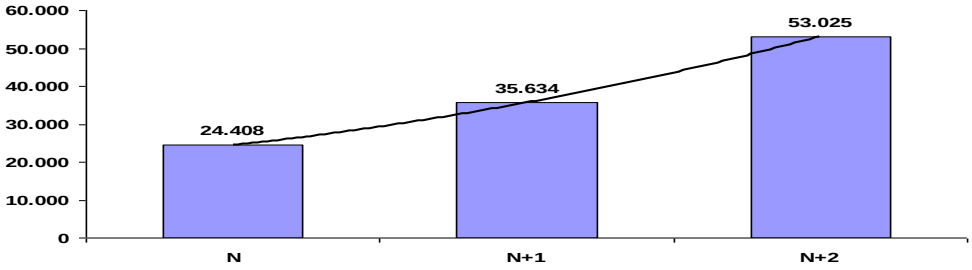

Figure 2 Evolution of shareholders' wealth according to the accounting records

According to net asset value the company value records from accounting perspective an average annual growth of 56%, higher than on industry level. The result of management policies undertaken, led in time to increased shareholder wealth, profit, according to the accounting records. At branch level, the average increase in value is of 20%, which shows that under the existing environmental conditions the studied company had a higher growth.

The company value by net cash flows updating

Table 6

Nr	Component	N	N+1 est.	N+2 est.
1	Cash flow management (net profit + amortization)	13,760	18,032	25,739
2	Working capital (ΔNCC)	16,408	5,226	11,391
3	Annual investment ($\Delta AI + Amortization$)	10,000	20,000	0
4=1-2-3	Free Cash Flow to the firm(FCF)	-12,648	-7,194	14,348
5	Cash flow to shareholders (CF_{share})	-12,648	2,806	4,348
6	Cash flow to creditors (CF_{cred})	0	-10,000	10,000
7	Discount rate ($r_{a=WACC}$)		0.329	0.315
8	Present value of cash flow (DCF)		-5,410	8,297
9	Terminal value (TV)			53,025
10	Present value of terminal value			30,664
11	Discounted company value			33,551

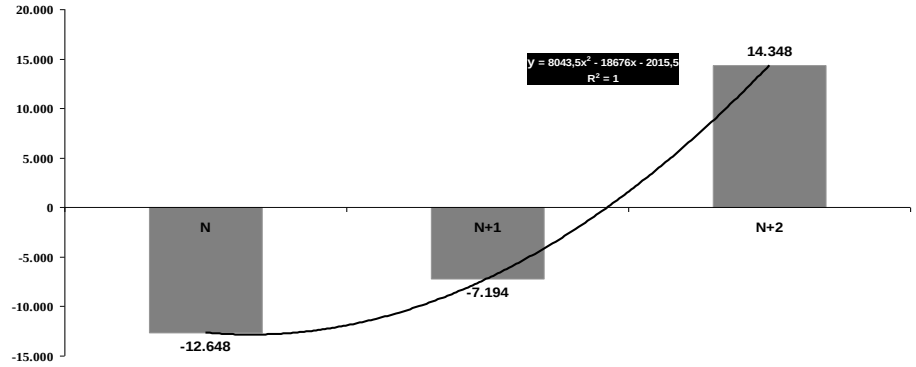

Figure 3 The Evolution of Free Cash Flow of the firm

The discount rate was determined based on the weighted average cost regarding the funding sources used by the company and profitability required by investors. Negative net cash flows, in the first two years are the result of annual investment. These investments are the premises of profit growth in financial year N+2, which is beneficial for the enterprise on medium term, contributing to the increase of business value. Shareholders, at the end of the financial year N, based on the expected net cash flows, consider that the company currently worth 33,551 lei, this value being higher than the value to be recovered of 24,408 lei. This additional value of 9134 lei resulted based on the comparison between the estimated values of the same company using different methods, leads to the idea that there is an additional intangible asset not recorded in the accounts, which together with

other assets gives the total value of the company. It is the result of the management policies, stable customers, suppliers' satisfaction, good relations with banks, staff satisfaction etc.

If the company were traded at the end of year N by potential investors based on the expected net cash flows, they may be willing to pay for company the amount of 33,551 lei higher than the investment of 24,408 lei (the minimum amount from which the seller agrees to sell). Furthermore, for an investor the enterprise is seen as a portfolio investment[1], the net present value (NPV) will be equal to ($NPV = \sum_{i=1}^{2} \frac{FCF_i}{(1+r_a)^i} + \frac{VT_2}{(1+r_a)^2} - CI_0 = 33,551 - 24,408 = 9,143 \text{ Lei}$)[2].

The positive value of NPV indicates the efficiency of the investment project within the company and the management policies undertaken so far.

A simplified calculation, which indicates the internal value created during a financial year, taking into account the cost of capital, can be done based on the EVA indicator[3].

The value increase through EVA

Table 7

Nr	**Components**	**N**	**N+1 est.**	**N+2 est.**
1	Net operatig profit after taxation [EBIT (1-t)]	11,760	16,032	23,739
2	Capital invested (CI)	24,408	45,634	53,025
3=1/2	Return on invested capital [EBIT (1-t)]/ CI	0.48	0.35	0.45
4	The interest rate on government bonds (r_f) [4]	30%	30%	30%
5	Risk premium[5] (r_p)	25%	25%	25%
6= 4+5*4	Cost of Equity (k_e)	37.5%	37.5%	37.5%
7	Cost of debs (k_d)	0	20%	20%
8	Discount rate = Weighted average cost of capital[6] (WACC)	37.5	32.9	31.5
9	Economic value added (EVA)	2,607	990	7,036

After the first year the company has created an additional value of 2607 Lei. The operating revenues cover the operating costs including the opportunity cost of capital employed (estimated on the basis of earnings that are lost when abandoning the best option by choosing the investment option)[7].

The return on the operating capital exceeds the weighted average cost of capital. According to the working hypotheses, the weighted average cost of capital of the analyzed

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[1] A management policy based on maximizing enterprise value, will select those investments, which ensure maximum efficiency.

[2] The same result can be achieved also with the model $NPV = \sum_{i=1}^{n} \frac{V_i}{(1+r_a)^i} - \sum_{i=1}^{n} \frac{I_i + C_i}{(1+r_a)^i}$

[3] Young D. S., O'Byrne S. F.-*EVA and value-based management: a practical guide to implementation*, Ney York, 2000, 35 p

[4] Rate of government bonds, www. bvb ro.

5 The estimated risk premium based on the general diagnosis (takes into account the internal and external risks of a company)

[6] The weighted average cost is calculated as a weighted arithmetic mean of the opportunity cost of capital employed (equity cost and cost of borrowed capital) with the proportion in which they finance all the capital invested.

W..A.C.C. = $k_d \frac{D}{D+E} + K_e \frac{E}{D+E}$.

[7] Pratt S.P. *Cost of Capital: Estimation and Application*, Ney York, John Wiley&Sons, Inc., 2002, 226 p

case is determined as the sum of risk-free rate of return and risk premium [$k_e = r_f * (1 + r_p)$]. The accurate estimation of the cost of capital is a sensitive issue for both evaluators of Romania and those from abroad. The positive economic value each year indicate not only a positive result (PN> 0), but a better result than that expected by shareholders. From the point of view of shareholders, given the capital invested at the beginning (15,000 Lei), the enterprise value, based on EVA indicator, is: Enterprise value[1] $= CI_0 + \sum_{i=1}^{n} \frac{EVA_i}{(1+r_a)^i} + \frac{VT_n}{(1+r_a)^n} =$ =43.869 Lei.

The additional value added by the market (MVA), developed and planned for the next two years, in the case of the analysed company having regard to EVA, is determined as follows:

$$MVA=\underbrace{\left[CI_0 + \sum_{i=1}^{3} \frac{EVA_i}{(1+r_a)^i} + \frac{VT_3}{(1+r_a)^3}\right]}_{\text{Enterprise value}} - CI_0 = 28.869 \text{ Lei.}$$

The enterprise value through EVA

Table 8

1	Turnover	30,000	39,040	50,720
2	Operating expenditures + Income tax	18,240	23,008	26,981
3	Weighted average cost of capital (WACC)	0.375	0.330	0.315
4	Cost of capital invested (WACC*CI)	9,153	15,043	16,703
5=(1+2)-4	Economic value added (EVA)	2,607	989.54	7,036
6	Discount rate ($r_{a=WACC}$)		0.329	0.315
7	Present value of EVA	1,896	559.71	3,094
8	Terminal value (TV)			53,025
9	Present value of terminal value			23,318
10	Enterprise value (EV)			43,869
11	Market Value Added (MVA)			28,869

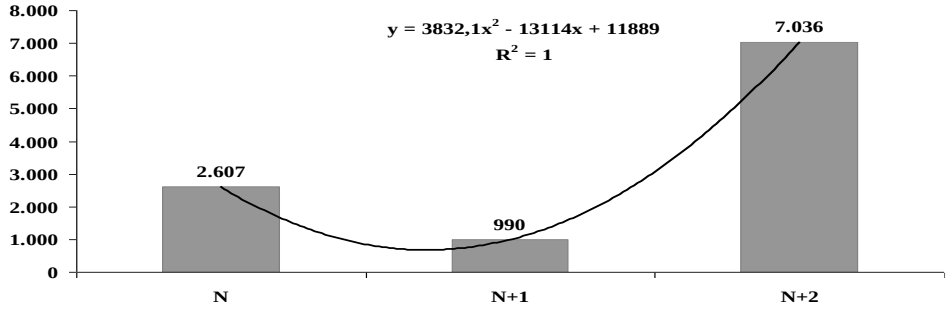

Figure 4 The Evolution of EVA

1 Damodaran A., *Investement Valuation,* Second edition, Willey Finance, 2002,867 p

Conclusions and proposals

In case of unlisted companies, the financial indicator that clearly measure value creation in each year is EVA. The higher the return on capital employed in the company is (the average is 42%) compared to the market return on investments (33%), the better management will be. Its superiority in measuring value creation relative to other indicators studied is evident. But this indicator has limitations, it can be manipulated by EBIT and the cost of capital invested in the current conditions of Romania is difficult to estimate, given its subjective nature (regression models reveal a weak link in Romania with TSR). Managerial performance evaluation based on the shareholder wealth growth is reflected in the accounts to some extent erroneous having in view the altered economic reality through the accounting records. This method involves taking into account only the history of the company with no regard to the prospects of the company.

Some present management decisions are taken to enhance future performance. Each investment made is based on a calculation of efficiency (NPV, internal rate of return) and involves achieving net cash flows higher than the investment made. The estimations based on updated cash flows are considered more relevant in relation to those based on net profit, given the fact that the algorithm of calculation is not influenced by amortization policies or provisions, and the net cash flows are the result of all the assets contained in activity, including an intangible asset thanks to the satisfaction of customers, suppliers, staff, creditors, etc.. This surplus of value provides on the market a price higher than the individual trading price on the market. The indicator "enterprise value", calculated based on the cash flows updating, has a high subjective character due to the determining factors. The level of this indicator in itself reflects the company's development potential following the carried on management policies.

But to reflect value creation within the company it must be compared with the enterprise value based on net assets or with capital invested. If the difference between enterprise values obtained by updating the company potentially achievable profit and the value of the capital employed for this purpose is positive, in this case the management is efficient.

As we noted the growth of the enterprise value satisfies the interests of all those involved in the carried out activity. Therefore, we propose that in Romania, both for private firms and state founded ones, the assessment of the managerial performance to be done through indicators that reflect the creation of value.

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