

# HUMAN CAPITAL PERFORMANCE RATIOS IN AN EMERGENT ECONOMY. THE CASE OF TOP TELECOMMUNICATIONS FIRMS IN ROMANIA

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## **Abstract:**

*The intellectual capital imposed itself in modern organizations as a structure which over crossed the traditional boundaries of capital, represented by equity and liabilities. Human capital, as a component of intellectual capital, is a factor of critical importance for the organizations of the 21st century, being the key to their success and survival in a global and permanently changing environment. It can be described as organization collective ability of being performant, as a sum of individual abilities of its personnel/employees. Starting from this particular point of view, a range of ratios will be proposed to analysis, describing the human capital performance in an organization which functions in an emergent economy.*

**Key words:** *intellectual capital, human capital, performance ratios, emergent economies, individual abilities.*

**JEL classification:** *E24, J21, J24, M21, M54, O15*

## **Introduction**

The restructuring of emerging countries' economy in relation to the manifested trends in the global economy makes them to pursue, mainly, the trade, technology transfers and foreign direct investment. Their huge untapped potential classifies them as areas of high interest for the developed economies, which are beginning to recognize them as feared partners with major contributions to the global economy reshaping. Regarded as providers of well-trained workforce, countries with an emerging market economy use their human capital to gain competitive advantages, regardless the occurrence area.

The evidence of the understanding and development of the intellectual capital concepts in emerging economies is still very much in its infancy. With global prosperity and stability increasingly depending on emerging economies, a need to establish evidence of intellectual capital development in different social, political and economic settings persists. The transition to knowledge as a resource involves efforts to alter the economic base of an organization from a traditional reliance on financial and physical resources to one that encompasses intellectual capital.

### **1. Human capital: intellectual capital or work force?**

Judging in terms of traditional accounting, intellectual capital is generally treated as intellectual property, plus those unspecified resources, grouped under the specific designation of intangible assets.

A closer analysis reveals though the necessity to include in the definition above any type or transformation of any intangible assets which are under some control of an organization and contribute to the general process of creating added value for that organization.

At this point, we can put to discussion human capital, as part of intellectual capital. The human factor, along with material and technical basis, represents a

condition of the quality of economic activity, in order to meet the demands and needs of all actors in the life of an organization. The human capital, as a valence of human factor, puts the question of quantification, in terms of number, abilities, expertise and performance. Achieving economic and social functions of an organization is subject to assurance with specialists, structure and level of training of personnel, its performance in operating activity and in management.

The operation of any socio-economic activities cannot be conceived without the presence of man and his intervention. In this perspective, man is not only the carrier of consumer needs, but also the owner of certain skills that allow him to act in order to meet these needs.

So, we can define human capital as the amount of skills, abilities, talent, knowledge and expertise of employees. Belief that this capital has a tremendous part in an organization's economic growth is undeniable. But accounting pragmatism calls for empirical evidence in order to find, determine and discuss the connection between financial performance and human capital and the connection to be credible.

## **2. Performance ratios related to human capital**

Performance can be defined as the financial return to a company's owners from the consumption of tangible resources. In the light of the recent accounting regulations, it is considered that investors, employees, suppliers, customers and any other relevant stakeholders (such as unions and government) contribute and receive benefits from a company and have their own image of expected performance. Even newer theories, such as resource-based theory, conceive firms as collections of physical and intangibles assets and capabilities. These contrasting views provide different views of corporate performance.

The most well known, more intelligible and more relevant reflection of the performance of a company is through its results, whether these are expressed in absolute values (profit/loss) or relative values (profitability). If we consider performance in terms of stakeholders, income is the reward participants get for their participation in the firm. Last but not least, seen as the sum of tangible and intangible resources, a company can analyze its performance in relation to its workforce, as human capital. To determine the extent to which human capital is performing means, in our opinion, to correlate financial performance ratios to indicators that directly relate to the composition, and structure of human capital.

In this paper, we are going to discuss ratios that describe human capital effectiveness and performance. In order to do that, we use measures which include: Revenue ratio, Turnover ratio, Net income ratio and Gross income ratio.

The Revenue ratio is a basic measure of human capital effectiveness and is the aggregate result of all of the drivers of human capital management that influence employee behavior. Revenue ratio is calculated by taking the total revenue and dividing it by the total headcount of the organization. Of course, this ratio is possible to be computed using full-time equivalents instead of headcount, which would be more precise, but significantly more difficult.

The Turnover ratio is calculated by taking the turnover and dividing it by the total headcount of the organization. Once again, full-time equivalents would be proper in this calculation instead of headcount.

The Income ratio is calculated by taking the gross/net income and dividing it by the total headcount of the organization.

There are few more ratios which can be relevant, in terms of performance. Here we consider:

- all the ratios above, computed using full-time equivalents;

▪ Human Capital Efficiency, which is an indicator of value added efficiency of human capital, computed by dividing value added with the total headcount of the organization;

▪ Human Capital Return on Investment calculates the return on investment on a company's employees ( $HC\ ROI = (Revenue - (Expenses - Salaries)) / Salaries$ ). This is equivalent to calculating the value added of investing in the organization's human assets. The numerator in this ratio is profit adjusted for the cost of people.

Those last mentioned ratios were not possible to be computed because the needed data from the Profit and Loss Account of the analyzed companies were not available.

### 3. Results of research

This paper aims to capture a series of indicators of human capital, based on the activity of certain top companies in the telecommunications sector in Romania, one of the European Union countries with emerging economy status. Electronic communications sector in Romania is growing in a faster pace, significantly exceeding the growth rates of our economy. The main engines of growth are mobile telephony and the (re)transmission of audiovisual programs on a subscription basis. A prospective analysis shows a series of developments in electronic communications sector in Romania to 2010-2012 timeframe. Thus, "package" offers, including broadcasting services, broadband Internet access and telephony ("triple-play"), will be the main engine of growth of the residential segment, RCS & RDS being, currently, the best positioned company in this regard. On the other hand, the corporate segment, the application of integrated mobile and fixed data transmission will take on increasing significance, Vodafone and Orange enjoying an enviable position in that direction. As expected, analysis of the major telecoms operators in terms of indicators of human capital is taking into consideration six top firms on this market segment namely, Orange, Vodafone, Romtelecom, Nokia, RCS & RDS and UPC. Their financial indicators are presented in Tables 1-6.

Table 1

Financial indicators ORANGE Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	3117581646	3761050786	4044743921	4711286306	4425242036
Revenues – total (lei)	3302860486	3921164897	4158288032	4846375068	4494549566
Gross profit/loss (lei)	1175457500	1639439792	1465417865	1893157378	1356909185
Net profit/loss (lei)	999847594	1414360064	1218798490	1611787768	1146846734
Nr. employees	1955	2238	2627	2953	2907

Table 2

Financial indicators VODAFONE Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	2676092646	3587492658	3839898698	4374448371	3938188599
Revenues – total (lei)	2853997812	3838230500	4014872328	4599220454	4152219049
Gross profit/loss (lei)	891488924	1340295418	1053066960	1322962350	1205123905
Net profit/loss (lei)	747992758	1142124867	881563371	1128555797	1035804851
Nr. employees	2025	2401	2836	2950	3043

Table 3

## Financial indicators ROMTELECOM Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	3258115865	3068329003	2837146951	3110139137	3338655609
Revenues – total (lei)	3868059322	3255619344	3025404025	3371697315	3568080130
Gross profit/loss (lei)	451114350	533869467	111993629	34746467	158001973
Net profit/loss (lei)	423660277	427259398	77279556	3952841	113007550
Nr. employees	15077	12883	12419	11244	10128

Table 4

## Financial indicators NOKIA Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	7274907	10848716	21818725	1678450508	4355066124
Revenues – total (lei)	7396990	11283680	26840235	1795812947	4484846701
Gross profit/loss (lei)	65812	1566578	-4612048	62275522	192781673
Net profit/loss (lei)	39211	1273615	-4612048	51017219	159361359
Nr. employees	107	102	125	1255	1670

Table 5

## Financial indicators RCS&amp;RDS Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	397754247	781334886	1156511219	1424448939	1658472050
Revenues – total (lei)	527633287	943108281	1516837844	1823686766	2154077623
Gross profit/loss (lei)	17898978	151140093	89394880	-141272659	211855401
Net profit/loss (lei)	15249510	122732522	61760870	-84358510	211826736
Nr. employees	3020	4875	5807	6654	6350

Table 6

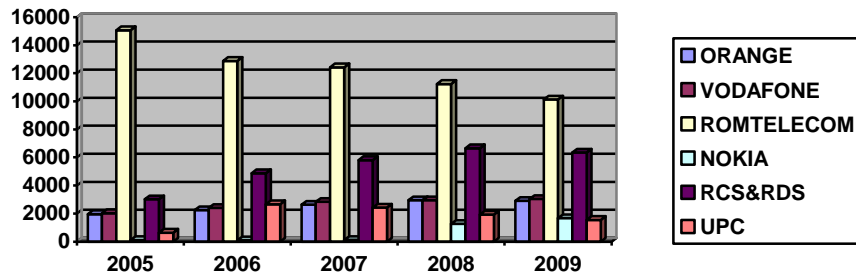
## Financial indicators UPC Romania

Indicator	Period of time				
	2005	2006	2007	2008	2009
Turnover (lei)	103685486	236172822	558499426	506936137	491824584
Revenues – total (lei)	140410176	299651297	666190467	650816251	666072589
Gross profit/loss (lei)	17854238	-110770355	-230182531	-368828655	-507009018
Net profit/loss (lei)	13172815	-110783746	-230182531	-368828655	-507037685
Nr. employees	638	2662	2422	1924	1551

Based on data collated in tables 1-6 and whose source was represented by the financial statements of the operators were taking into study resulted a series of performance indicators of human capital such as headcount, turnover per employee income, gross and net result per employee, as shown in Tables 7-11.

Table 7

Firm	Number of employees				
	2005	2006	2007	2008	2009
ORANGE	1955	2238	2627	2953	2907
VODAFONE	2025	2401	2836	2950	3043
ROMTELECOM	15077	12883	12419	11244	10128
NOKIA	107	102	125	1255	1670
RCS & RDS	3020	4875	5807	6654	6350
UPC	638	2662	2422	1924	1551

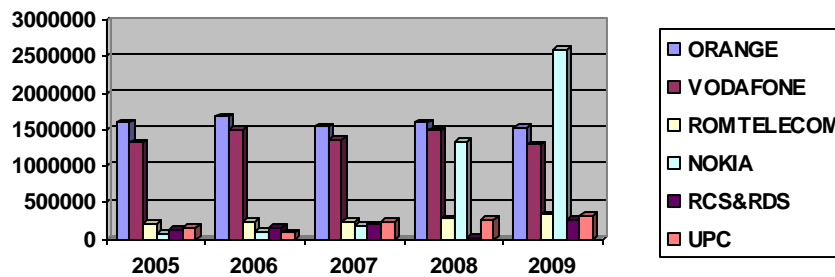


**Fig.1. Number of employees at firms included in the study during 2005-2009**

As seen, Romtelecom recorded, although decreasing, the highest number of employees compared to other companies, throughout the analyzed period. We consider that inefficient, because all the companies perform the same activities, not to mention the fact that the values exceed ten thousand employees.

Table 8

Firm	Turnover / employee				
	2005	2006	2007	2008	2009
ORANGE	1594670,92	1680541,01	1539681,74	1595423,74	1522271,08
VODAFONE	1321527,23	1494166,04	1353984,03	1482863,85	1294179,63
ROMTELECOM	216098,42	238168,83	228452,13	276604,33	329646,09
NOKIA	67989,79	106359,96	174549,80	1337410,76	2607824,03
RCS&RDS	131706,70	160273,82	199158,12	214074,08	261176,70
UPC	162516,44	88720,07	230594,31	263480,32	317101,60



**Fig.2. Turnover per employee at firms included in the study during 2005-2009**

As we can notice from the exhibit above, there are two trends which are clearly defined. First is the one that includes Orange, Vodafone and Rometelecom. They record a relatively constant ratio during the 2005-2009 periods, although Orange is definitely the best positioned. Second is the one that includes Nokia, RDS&RCS and UPC, all three recording an uptrend during 2005-2009 periods. In this second case, Nokia delineates itself with an increase of 95 %, compared to 2008, and of 3835,65 % compared to 2005. The same analysis can be presented for the revenue ratio.

Table 9

Firm	Revenue / employee				
	2005	2006	2007	2008	2009
ORANGE	1689442,70	1752084,40	1582903,70	1641170,02	1546112,68
VODAFONE	1409381,64	1598596,63	1415681,36	1559057,78	1364514,97
ROMTELECOM	256553,65	252706,62	243610,92	299866,36	352298,59
NOKIA	69130,75	110624,31	214721,88	1430926,65	2685536,95
RCS&RDS	174713,01	193458,11	261208,51	274073,76	339224,82
UPC	220078,65	112566,23	275058,00	338262,08	429447,19

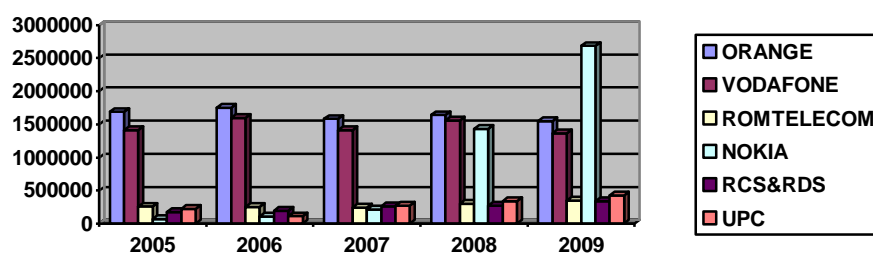


Fig.3. Revenue per employee at firms included in the study during 2005-2009

Table 10

Firm	Gross Profit or loss (s) / employee				
	2005	2006	2007	2008	2009
ORANGE	601257,03	732546,82	557829,41	641096,30	466773,03
VODAFONE	440241,44	558223,83	371321,21	448461,81	396031,52
ROMTELECOM	29920,70	41439,84	9017,93	3090,22	15600,51
NOKIA	615,07	15358,61	-36896,38	49621,93	115438,13
RCS&RDS	5926,81	31003,10	15394,33	-21231,24	33363,06
UPC	27984,70	-41611,70	-95038,20	-191698,89	-326891,69

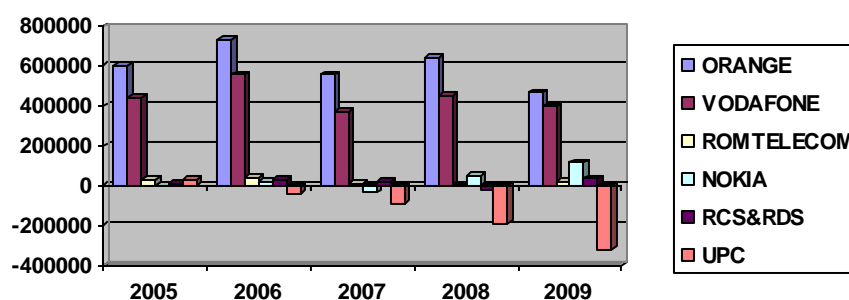
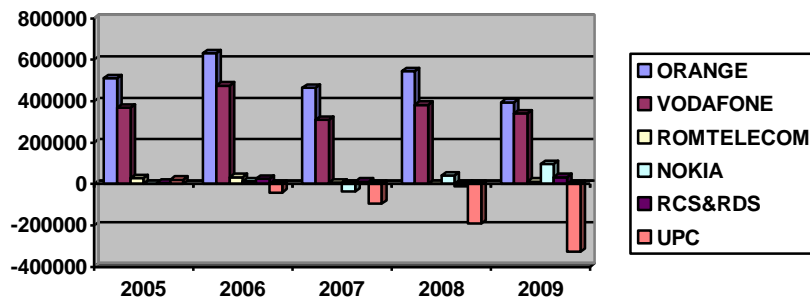


Fig.4. Gross Profit or loss (s) / employee at firms included in the study during 2005-2009

For the Gross profit ratio, again Orange and Vodafone are the best positioned. And, of course, we have to mention Nokia, which had an extraordinary uptrend in each case and for each calculated ratio.

Table 11

Firm	Net Profit or loss (s) / employee				
	2005	2006	2007	2008	2009
ORANGE	511430,99	631975,01	463950,70	545813,67	394512,12
VODAFONE	369379,14	475687,16	310847,45	382561,29	340389,37
ROMTELECOM	28099,77	33164,59	6222,69	351,55	11157,93
NOKIA	366,46	12486,42	-36896,38	40651,17	95425,96
RCS&RDS	5049,51	25175,90	10635,59	-12677,86	33358,54
UPC	20647,05	-41616,73	-95038,20	-191698,89	-326910,18



**Fig.5. Net Profit or loss (s) / employee at firms included in the study during 2005-2009**

## Conclusions

Graphical representation of the evolution of human capital performance indicators for the 2005-2009 period in the operators under study case led to the following conclusions: in terms of growth and net profit, on first place is Vodafone and, on the opposite pole, registering repeated losses is UPC. Revenue per employee recorded maximum level in Nokia's case and minimum level for Romtelecom. Turnover reached its maximum level for Nokia operator and its minimum one for the UPC operator case. Looking the employees' number indicator, Romtelecom is the leader.

The presented ratios reflect a distinctive dimension of corporate performance. Starting from traditional performance reflected in absolute values (turnover, revenues, gross and net income), we determined and analyzed these indicators in relation to the headcount of six top communications companies in Romania. Our approach was based on the fact that profitability may be conceived strictly as financial and accounting concern focusing on returns to the firms' owners, solely in monetary terms.

The fact that Romania was an emergent economy in the last five years has a great importance in the evolution of these companies. Despite the fact that the penetration of electronic communications in Romania is lower than most other European Union member states and the costs of electronic communications services per capita is relatively low, these services have a relatively high percentage in Romania's gross domestic product and this situation is also reflected in the evolution of the ratios.

Finally, our findings indicate that firm size is not related to the dimensions of effectiveness of human capital, reflected in the presented ratios. Analyzing firms from the same economic sector, we consider relevant not the comparison between them as their evolution in terms of performance related to human capital. Anyway, taking into consideration the fact that, in telecommunications, the human factor is essential (creativity, public relations, advertising, R&D), analyzing the performance of human capital provides valuable insights into the association between human capital and traditional perceptions of corporate performance.

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