AN ASSESSMENT OF RELATIVE PERFORMANCE OF ORGANIZATIONS USING ITS HR VALUE: A CASE STUDY

Though ranking of companies using HR productivity levels and HR values are compatible with traditional ranking methods, it also adds value as it tries to assess the relative contribution of technology and the HR

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THE human resources (HR) of any successful organization has long been considered an asset. Starting from the late 1960s and 1970s, different approaches have been used to valuing HR such as cost-based, economic value based on wage payables approach, psycho-social test results of employees as dollar analogue of HR value have been proposed and used[1]. However, to date a consensus approach to value each individual in an organization is yet to be found.

In such a scenario it is fundamental to focus our attention on valuation of organizational HR as a whole in the realm of Human Resource Accounting (Kolay and Sahu, 1995). The HR of any organization develop and utilize the other asset, i.e. the technology base, along with themselves, to convert the inputs to outputs to earn profits as the level of performance. The profit performance in relation to size and quality of the technology base reflects the productivity of the organizational HR. An organization adopts different strategies to sustain and improve the quality of the HR and their productivity. Thus, the productivity of the HR, when viewed in relation to cost incurred by adopting such strategies, would reflect the surrogate value of the organizational HR (Kolay and Sahu, 1995).

Ever since the onset of Great Recession in 2008, employees have faced a great deal of turbulence in the workplace and as a result, engagement levels on the job are at surprising lows. Total factor productivity that accounts for the productivity of labor and capital inputs together has dropped below zero in 2013 for the global economy (Conference Board, 2014). Financial information apart, stakeholders now-a-days need return-on-investment in every aspect of the business, especially the organizational HR. HR investments can be compromised to improve the short-term gains by overstretching and liquidating the HR, not reflected in current financial accounts. Therefore, a ranking based on financial information need not necessarily be re-

[1]See Monograph by Kolay (1996) for an exhaustive list

flective of organizational HR.

The present paper aims to take a look at the relative performance of top financially ranked organizations using HR value as the new criteria for ranking.

Performance level of selected companies

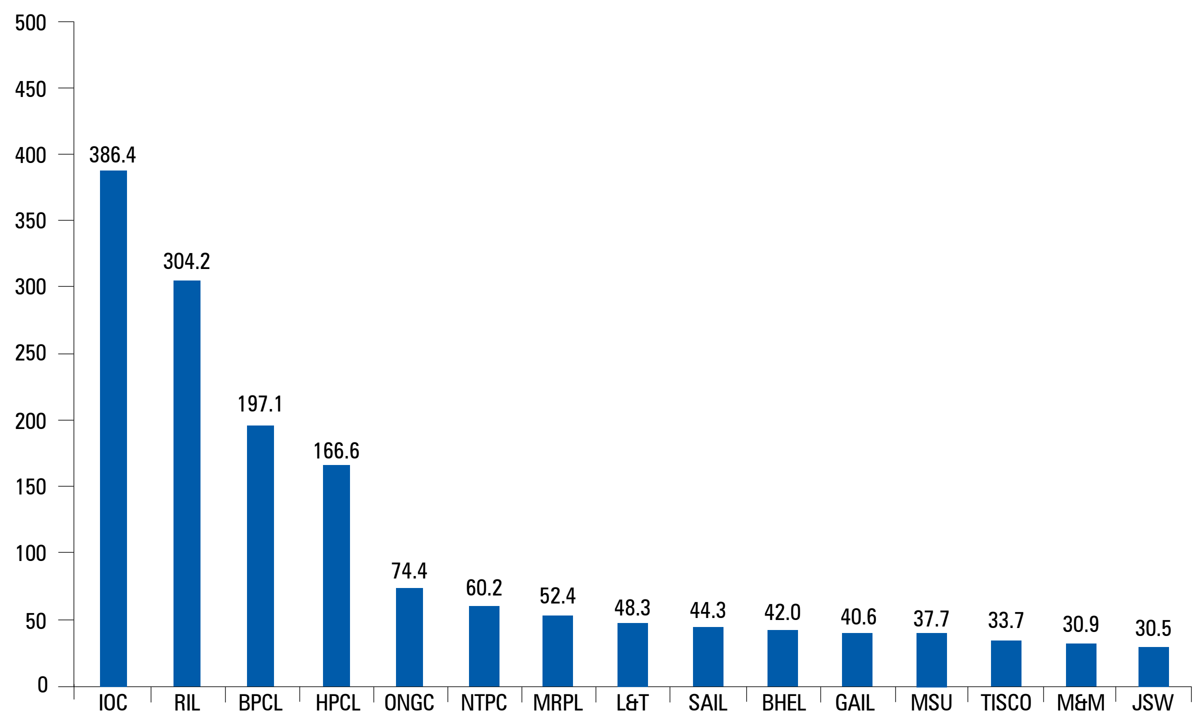
Top twenty five companies based on net sales have been chosen from the available list of "Top Hundred Companies" (Money Control, 2014). Then fifteen out of twenty five companies have been considered for the present study with a focus on production sector as in **Table-1**.

Then, to facilitate performance based ranking, the average net sales over the last five years (2009-10 to 2013-14) have been used to rank the chosen fifteen companies as in **Figure-1**.

Table-1: Top 15 companies chosen from the list of Top 100 companies, based on net sales, 2013-14

Company	Net sales, Rs. th. cr	Rank in website
Indian Oil Corporation Limited (IOC)	473.21	1
Reliance Industries Limited (RIL)	390.12	2
Bharat Petroleum Corporation Limited (BPCL)	260.06	3
Hindustan Petroleum Corporation Limited (HPCL)	223.04	4
Oil and Natural Gas Corporation Limited (ONGC)	83.89	7
National Thermal Power Corporation Limited (NTPC)	72.02	8
Mangalore Refinery & Petrochemical Limited (MRPL)	71.82	9
Gas Authority of India Limited (GAIL)	57.51	11
Larsen & Toubro Limited (L&T)	56.60	12
Steel Authority of India Limited (SAIL)	46.70	15
JSW Steel Limited (JSW)	45.30	16
Maruti Suzuki India Limited (MSU)	43.70	19
Tata Iron & Steel Company Limited (TISCO)	41.71	21
Mahindra & Mahindra Limited (M&M)	40.51	23
Bharat Heavy Electricals Limited (BHEL)	39.11	25

Figure-1: Top 15 companies based on avarage net sales (Rs. thousand Crores) of last 5 years



The net sales of these companies have been growing over the last five years with overall average growth rate of 16.48% pa as in Table-2. Interestingly, on dividing the total study period into two halves, 2009-10 to 2011-12 and 2011-12 to 2013-14, the growth in net sales shows distinctively much higher figure of 24.10% for the first half as compared with the current half of 8.86% Such a general trend across different companies reflects no doubt the distinctive impact of external environment. With such a growth pattern in sales, the financial performance of these companies in terms of average return on total assets has been varying over the last five years from a maximum of 12.59% for ONGC to a minimum of 2.25% for MRPL as in **Table-2**.

Now, on the input front, as in Table-3, the technology base and its growth over the years has been the main dominant factor behind such a growth in sales and financial performance. Considering the gross fixed assets deployed as measure of technology base, and considering 2009-10 as the base year with yearly inflation adjusted (manufacturing goods price index) additions in fixed assets as the increment, the growth rate in technology base has been varying with overall annual average growth rate of 13.89%. However, contrary to such a growth in technology used to accelerate the level of net sales, the size of the HR base shows only marginal growth of 2.77% pa on an average for all the companies together. In fact, five out of fifteen companies have become leaner with negative growth rate in HR base (Ref :Table-3).

On account of such a strong focus on growth in technology base as contrast to HR, the traditional measure of HR output in terms of net

Table-2: Financial performance of selected companies

Company	Average annual growth rate in net sales during			Avg. return (Rs. crores)	Avg. annual return on total assets (ROTA)-%
	2009-10 to 2013-14	2009-10 to 2011-12	2011-12 to 2013-14		
IOC	18.20	32.82	4.37	6729	3.64
RIL	19.84	30.94	8.74	19910	6.59
BPCL	21.36	31.93	10.79	2220	3.64
HPCL	22.50	33.03	11.96	1278	1.96
ONGC	8.86	12.94	4.77	20767	12.59
NTPC	11.76	15.77	15.75	10130	7.10
MRPL	22.87	30.00	7.75	608	2.25
L&T	11.89	20.42	3.37	4070	6.36
SAIL	3.69	6.90	0.47	3998	5.28
BHEL	5.90	20.96	-9.15	5488	8.75
GAIL	23.24	27.16	19.32	3750	7.80
MSU	11.59	11.82	11.37	2319	10.62
TISCO	13.67	16.46	10.88	6017	6.45
M&M	21.84	30.28	13.39	2938	12.55
JSW	29.94	40.82	19.06	1759	3.97

Table-3: Technology versus HR base deployed

Company	Avg. technology base used (Rs. th. crores)	Growth in technology base (%)	Avg. HR base used (no.)	Growth rate in HR base (%)
IOC	94.38	11.12	34116	-0.42
RIL	227.31	3.06	23313	0.54
BPCL	32.38	11.50	13501	-1.25
HPCL	32.61	12.64	11130	-0.97
ONGC	76.37	16.75	33184	0.89
NTPC	85.83	13.22	23765	-0.35
MRPL	14.89	19.93	1489	7.10
L&T	9.58	11.72	47565	9.01
SAIL	40.52	8.42	106841	-4.35
BHEL	9.14	14.75	47667	0.72
GAIL	26.17	11.32	3900	2.10
MSU	13.11	15.12	9463	13.81
TISCO	38.12	19.92	34741	1.58
M&M	6.97	18.23	18349	3.40
JSW	32.92	20.72	9365	9.76
Average		13.89		2.77

sales per employee has been growing for these companies at a very rapid rate (as in Table-4), contrary to decline of such a measure of HR output in many parts of the world. More importantly, it is the input of HR cost percent of net sales has contributed strongly to build up the size of the profits as evident from Table-4. In fact, it only confirms the labor cost advantage of India, and is one of the most dominant factors that places India on the fourth position in the 2013 Global Manufacturing Competitiveness Index behind China, Germany, and the USA (Table-4).

Now the question arises does the growth in net sales belong to technology base deployed or to the organizational HR? Are these companies placed on top because of technology or by virtue of talent and sincerity of their HR, the so called most important asset? Are we looking after our employees well and remunerating them what they deserve or overstretching them to make still

Table-4: HR output of net sales versus input of HR cost

Company	Avg. net sales per employee, Rs. crores	Avg. growth in net sales per employee (%)	Avg. HR cost % of avg. net sales	Avg. growth in HR cost percent pa
IOC	11.34	23.26	1.69	-9.82
RIL	13.02	24.64	0.99	-7.31
BPCL	14.69	30.93	1.39	-9.10
HPCL	15.02	32.21	1.25	-10.74
ONGC	2.24	8.77	10.62	7.52
NTPC	2.53	14.42	5.17	0.79
MRPL	34.51	18.00	0.33	-0.09
L&T	1.01	2.42	7.15	6.75
SAIL	0.42	9.39	17.59	13.39
BHEL	0.88	3.97	13.48	-1.23
GAIL	10.34	27.96	1.89	-10.16
MSU	4.01	-2.05	2.33	16.51
TISCO	0.97	14.26	9.26	-1.67
M&M	1.69	23.52	5.57	-4.04
JSW	3.17	23.51	2.03	-5.40
Average	7.72	17.01	5.38	-0.97

Figure-2: Relative HR productivity index

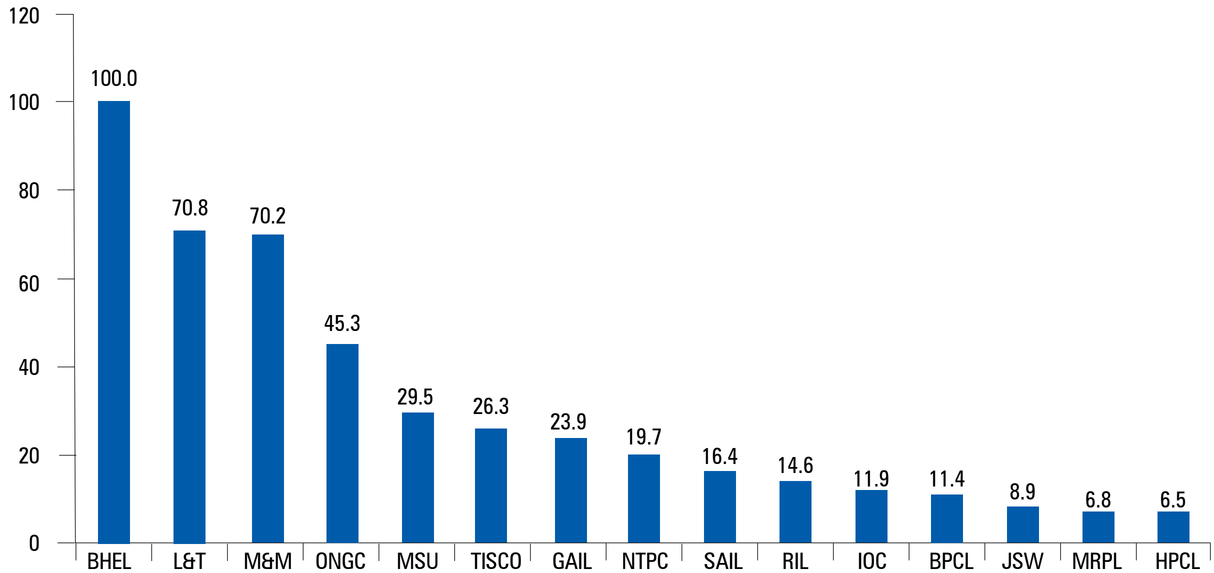


Figure-3: Relative HR cost index

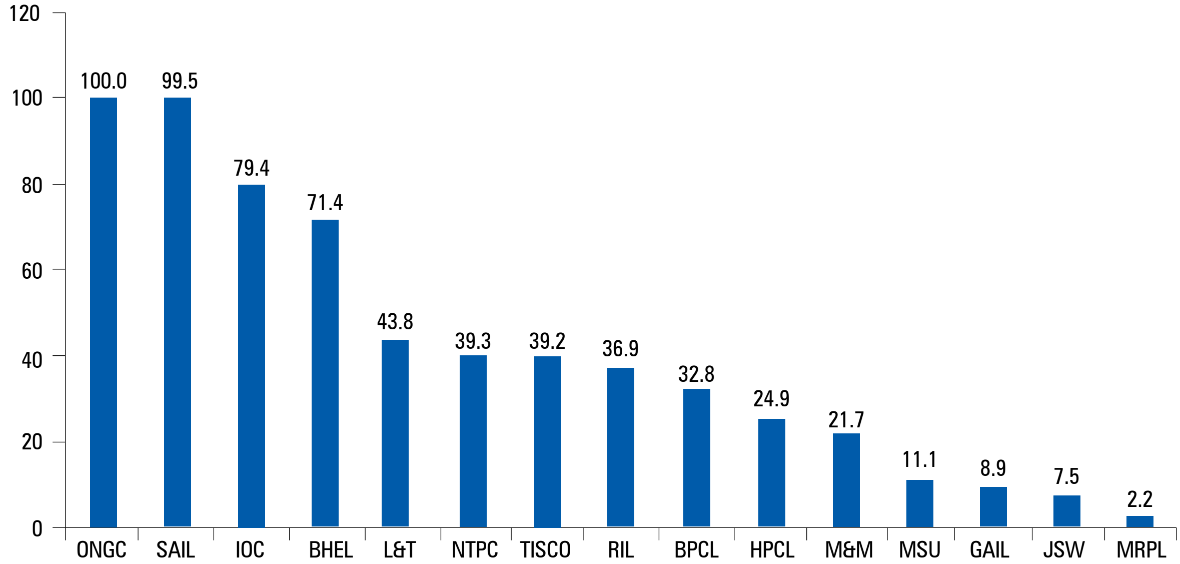
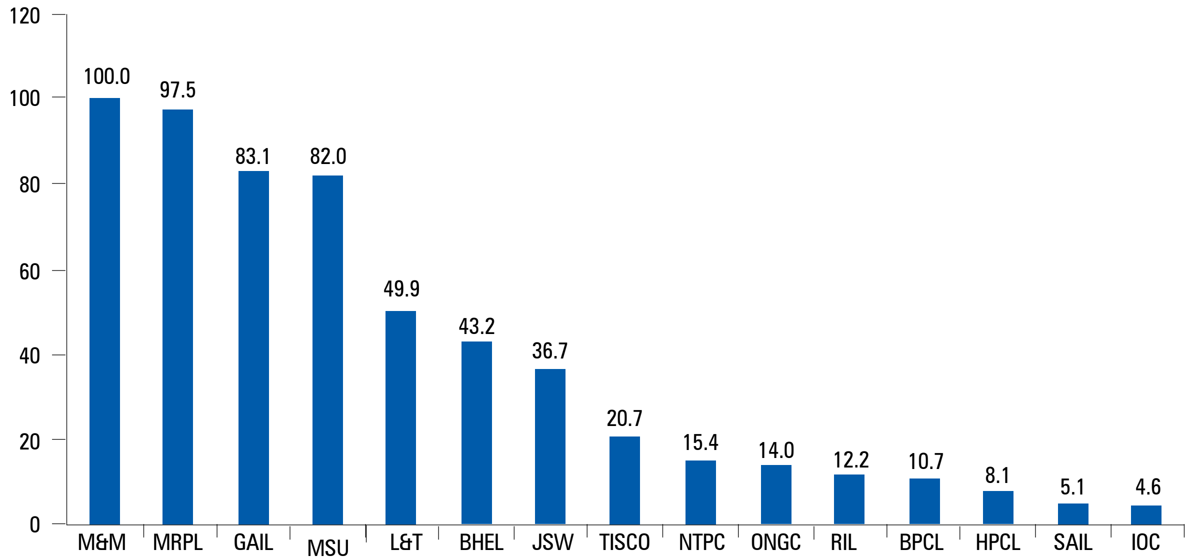


Figure-4 Relative HR value index



more profits? Can we assess the performance of these organizations in terms of their HR values?

HR value of selected companies

Given the overriding goal of any business is to make profits, and the resultant profit belongs to the credit of its man-machine system, the productivity of organizational HR as whole is given by the return or net profit after tax in relation to technology base used by the HR. The average HR productivity levels over five years per Rs. 100 deployment in the technology base varies from the best figure of Rs. 60.04 for BHEL to the lowest of Rs. 3.92 for HPCL with an average of Rs. 18.50. Such

Table-5: Rank correlation coefficient matrix between different set of criteria						
	Technology base	HR cost	Net sales	Return on total assets	HR productivity	HR value
Technology base		0.4000 P = 0.1264 Insig	0.5500 P = 0.0285 Sig. at 95%	-0.1411 P = 0.6029 Insig	-0.4250 P = 0.10 Sig. at 90%	-0.7464 P = 0.00 Sig. at 99%
HR cost			0.4000 P = 0.13 Insig	0.2375 P = 0.38 Insig	0.4036 P = 0.12 Insig	-0.5929 P = 0.02 Sig. at 95%
Net sales				--0.2839 P = 0.29 Insig	-0.3857 P = 0.14 Insig.	-0.6679 P = 0.01 Sig. at 99%
Return on total assets					0.8196 P = 0.00 Sig. at 99%	0.4732 P = 0.07 Sig. at 90%
HR productivity						0.4250 P = 0.10 Sig. at 90%
HR value						

a level of average HR productivity converted in relative terms is shown in **Figure-2**.

Assuming 2009-10 as the base year, and using consumer price index to convert total HR cost (for respective number of employees) in real terms, the annual HR cost index in relative terms is shown in **Figure-3**.

The organizational HR achieves the productivity level but at the same time incurs the HR cost on themselves. Thus, dividing HR productivity level by HR cost, we calculate the organizational HR value measure. Taking the highest average value of organizational HR for M&M as 100, the relative HR value measure for fifteen companies is shown in Figure-4. This shows IOC which was at the top of the table based on average net sales goes to the bottom of the list, whereas, M&M which was at the fourteenth position earlier moves to the top of the table on HR value based ranking.

Validity of HR value measure tested

The validity of the proposed HR value measure has been examined using Spearman's Rank Correlation with HR value and other traditional financial performance criteria of ranking. Here for rank correlation, we choose any pair of two criteria from the total six set of criteria as:

- Input variables: i) Technology base, and ii) HR cost;
- Output variables: i) HR value measure, and ii) HR productivity measure (intermediate output variable)
- Traditional criteria used for ranking: i) Net sales, and ii) Return on total assets.

Using the relative ranking of fifteen companies as presented earlier, the Spearman rank correlation matrix between each pair in the six set of criteria is shown in **Table-5**.

It may be observed from Table-5 that HR value based ranking is very strongly negatively correlated with technology base, rapid growth in technology have not resulted adequate return to compensate even lower level of HR cost. Again, HR value based ranking is very strongly negatively correlated with net sales. That may be due to growth in sales might not have been accompanied with commensurate return and again higher technology base deployed for such a level of return has further eroded the HR value measure. However, we observe a very strong positive correlation between ranking using HR productivity measure and the return on total assets. This clearly indicates that out of the total assets, the deployment of the technology base is the dominant factor towards profit maximization. Another very strong positive correlation is observed between ranking using net sales and the technology base, as growth in technology base must be accompanied with the growth in net sales. It also confirms that HR value and HR cost as inversely proportional as strong correlation exists between them. Thus, using the real life information from annual accounts of fifteen companies, ranking based on proposed HR value measure and its building blocks correlates quite strongly with ranking using financial performance measures.

Conclusions

The proposed organizational HR value measure has been based on the traditional measure of value as performance function divided by cost function. Ranking of companies using HR productivity level and HR value measure are very much compatible with ranking using traditional financial parameters, but it adds value as it tries to assess the relative contribution of technology and the HR. This will assist company managers and policy planners to allocate resources, and balance the portfolio towards sustained profitability. The method aims at relative value measure rather than trying to assess absolute value, and thus facilitate ranking and inter-firm comparison. The method does not envisage any change in the traditional accounting practices besides incorporating such information of HR value in their annual reports. The analysis of different building blocks of such a value measure of organizational HR and the inter-firm comparison of top fifteen companies of India may force today's managers to think anew of managing the talents of the HR in tune with current technological advances to reach still newer heights.

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