Valuation of Human Capital

Research By – Navin Bhutoria

“Our employees are our greatest assets, and the ability to attract and retain them is the key driver of our future success.”

Sound familiar? This is now a routine sentence for any company reporting on its health and its future. But for many of those companies, its meaning and implications are limited to that sentence. Let’s step back to quantify more precisely what it means to have human capital, to attract and retain it.

The human capital can be defined as "the knowledge that individuals acquire during their life and use to produce goods services or ideas in market or non-market circumstances."

Good managers know that measurement is a prerequisite for good management: We’ve heard the axiom that, “What gets measured gets managed.” This suggests then that the fundamental source of wealth creation—human capital—is seriously under managed in most organizations. That is because most organizations’ systems of measurement, shaped in part by accounting and reporting requirements, are still unduly influenced by measurement concepts dating back to the industrial era when physical capital was the primary source of wealth creation. Using these out-of-date measurement systems to manage today is roughly analogous to steering a car with the rear view mirror.

There have been only three eras in all of economic history: the agrarian era, the industrial era, and the knowledge era. Each era has been defined by the factor of production that has served as the foundation for wealth creation. Not surprisingly, in the agrarian era, land was the primary source of wealth. In the industrial era, the primary sources of wealth were machinery and, to a lesser extent, natural resources. In the knowledge era, human capital is the source of wealth. [A definitional note: human capital is the embodiment of productive capacity within people. It is the sum of people's skills, knowledge, attributes, motivations, and fortitude. It can be given or rented to others, but only on a temporary basis; its ownership is non-transferable.]

The accounting and reporting systems that have developed over centuries reflect this evolution, albeit with a lag. In most of the developed nations, the currently accepted accounting principles and their related reporting requirements rest on the foundational assumption that physical assets (land, machinery, buildings, natural resources and inventory) generate wealth. Human capital does not even appear on the balance sheet.

There is, of course, a reason for this that transcends history. Unlike all other factors of production, human capital is the only factor that cannot be owned. Although that is as it should be, the omission of human capital from the balance sheet can play mischief in the wise allocation and management of resources.

One need not look far back in economic history to find a painful example of this mischief. As the U.S. underwent major restructuring throughout the 1980s and into the 1990s, corporations that announced massive layoffs typically enjoyed dramatic increases in their stock prices. Some of the increase was undoubtedly the result of the perception (right or wrong) that fat was being cut. Some of the increase, however, was the tautological result of the fact that when people are cut, costs decrease and, as a result, earnings increase, at least temporarily. In other words, layoffs could be used to drive short-term increases in stock market prices (and, therefore, senior executives' compensation). However, research has shown that the majority of firms that used the layoff strategy ended up several years down the road with stock prices below the pre-layoff price. This suggests that the short-term euphoria of cost cutting is eventually followed by the sobering recognition that when people costs are cut, so too are the assets that generate future revenue and profitability.

If investors had better information available to them, they would be less quick to reward firms that engage in short-sighted (often excessive) cost cutting strategies that will have productivity consequences in the out years. [Remember, for example, Chainsaw Al?] Indeed, investors finally seem to have caught onto this fact; layoff announcements no longer generate the same level of stock price spikes. Alas, both individuals (workers and investors) and the market endured much pain and suffering before they learned the necessary lessons.

Expenditures associated with the development of people—education and training being perhaps the most prominent—are treated as costs even though, in actuality, these expenditures possess the attributes of an investment (an expenditure at one point in time that is made with the intention of generating an increase in capacity at some future point in time).

It should be noted that their sometimes- maddening focus on costs and cost cutting is not baseless. Often the known costs associated with people and their development, because measurement and accounting practices associated with human capital are remnants of the industrial era, the measured costs are only a portion of the total costs. Moreover, because benefits are both uncertain and unknown, a conservative strategy has its merits. And finally, because human capital cannot be owned, spending on the development of people does not meet the traditional accounting concept of an investment, since employers cannot control the asset, i.e., the people in whom an investment is being made.

In short, there are legitimate arguments in favor of the status quo with regard to measurement, accounting and reporting of human capital development and management. There are, however, also powerful arguments to be made that change is necessary.

Alas, there is no magic formula for solving this dilemma. But the time for serious, disciplined experimentation is clearly upon us.

The Foundation of Human Capital Advantage

Economists' concept of human capital advantage is embedded in what is known as "efficiency wage theory." This theory posits that the way to get people to avoid shirking on the job and produce the maximum possible value on their employer's behalf is to pay them an efficiency wage. Simply put, an efficiency wage is an above-market wage. And, certainly if you pay people more than they can earn elsewhere, they are more likely to exhibit the behaviors necessary to avoid being fired, but it surely is an expensive way to elicit such behavior. Moreover, merely exhibiting the behavior necessary to avoid being fired probably falls far short of what most employers want and need from their employees. This type of thinking represents little more than a knowledge era tweak to an industrial era model.

Money is, of course, one of the things—but by no means the only thing—that people want through their work. Sociologist's concept of "mutual gift giving" probably comes closer to getting at the essence of human capital advantage. Because human capital cannot be owned (or even transferred), extracting the maximum advantage from it requires that an organization first understand what people want and then give it to them.

The trick to creating human capital advantage is to figure out inexpensive but difficult- to-replicate ways to give people what they want. Those organizations that develop a human capital advantage have learned to give people what they want in a more cost- effective manner than the competition.

Human capital represents a huge operating cost that must be managed efficiently because of its sheer magnitude; in the United States, for example, nearly 70% of all operating costs are ultimately attributable to people. At the same time—because human capital is also the only asset that cannot be owned—it must be managed wisely, but also with humanity. Consequently, a strategy that focuses exclusively on efficiency and cost containment can, at best, only be successful in the short-run. This creates a fundamental paradox.

Exceptional management in the knowledge era is defined by the ability to resolve this paradox through a "both/and," rather than an "either/or" strategy. The both/and strategy requires a relentless focus on finding ways to cut costs and improve productivity, while simultaneously evoking the passion, creativity, loyalty and best efforts of the people on whom an organization relies.

That focus is the essence of human capital development and management (HCDM). And embedded in it is a framework for beginning to measure human capital advantage.

Why is Human Capital Key?

The new economy is often called the knowledge economy. Emerging from an industrial age, this new economy distinguishes itself by a large amount of the value of the company residing in the head of the employee instead of in the tangible assets of the company.

This realization was made very clear in a 1999 Business Week article that showed the valuation of Microsoft was superior to GM + Ford + Boeing + Lockheed-Martin + Deere + Caterpillar + USX + Weyerhauser + Union Pacific + Kodak + Sears + Marriott + Safeway + Kellogg. Yet, the only value at Microsoft resides in the heads of its employees!

By their essence, software companies represent the structure of the new economy because they create new entities called software codes, which are totally digital. Software is however very powerful to optimize the physical world and provides tremendous value (an example is supply chain optimization software).

Another illustration of the intrinsic value of intangible and human capital is the historical evolution of the ratio of the S&P 500 between the market value and the book value. The ratio of book value to market value was approximately 1 in the early 1980s. In 2000 it had risen to about 6; in the last 20 years it increased 6 times. Among those companies, current employees are now perceived as a key element, along with the ability to attract and retain talent. Faced with this issue, many academics started to review and suggest some new models to give a better account of a corporation's worth.

We, the people of the modern age, seem to have come full circle, to taking a look at ourselves. Management theories are veering round to a re-evaluation of that invaluable human factor and its critical contribution to the creation of wealth. In fact, they have gone one step further to stress that people are the wealth. Pundits of today assert that while the other forms of capital, including material, equipment, tools and technology, only represent inert potentialities, it is the human capital that converts this potential and energizes the creation of wealth.

Let us take a peep into this fascinating attempt at pricing the priceless, or what was hitherto considered priceless simply because not many serious attempts were made at its valuation. What makes the challenge more interesting is that this form of capital is floating rather than fixed. No organization can own its human capital the way it owns its other assets. And, inevitably, there is a constant 'flight of capital'. Here we have all the trappings of perpetual dynamics when compared to static assets whose tenure can be safely projected. Today, there is nothing sacrosanct about employer-employee relationships and a professional parting of ways is an accepted way of life. For instance, the only loyalty the silicon generation exhibits is to the Silicon Valley itself, not to any individual organization within its bounds. The imperatives of attrition have to be accorded due recognition, and this is the other dimension an organization has to focus on. Employers have to understand the value that is lost when a key employee leaves. So, we will also examine the cause of attrition in the new knowledge-oriented organization and what can be done to motivate loyalty.

Capital redefined

An organization is made up of competencies which we can loosely call 'capital'. Its key components are 'customer capital', 'structural capital' and 'human capital'. Broadly a company's strength arises out of its customer base which purchases its products. This customer capital triggers a number of key decisions such as new product and service packages, new designs in anticipation of customer preferences and new locations from which a number of customers could be profitably served. We have heard of a company being acquired purely because of the strength of its customer base. Besides customers, the strength of an organization arises out of the efficiency of its operations. This is characterized by the manner in which its processes are designed and operated. We can call this the structural capital. But the key strength comes out of its human capital. It is the expertise of its employees which ensures that customers are acquired and retained, and the processes work efficiently to satisfy the customer's needs. We can say that human capital is the basis for the creation of customer and structural capital. The accounting system does not capture the values of these forms of capital. Indeed, even a management information system hardly captures the accretion or depletion of these critical components in the functioning of an organization.

In the information technology (IT) industry, if we examine the issues relating to the human capital of an organization, we will find that if people hold the key to prosperity anywhere, it is more so in the IT industry which employs knowledge workers. Here, human capital is not merely one component of capital; it is the critical component that forms the basis for other forms of capital: People with their expertise are the sole creators of value to the customer and people through their effort are the key to the optimization of its process efficiency.

Perhaps the natural corollary to this is the high attrition rate in the IT industry. So IT organizations have a critical need to know the value they would forego when they are about to lose a person. This knowledge is important in taking appropriate action, in making counter-offers, in keeping up a constant preventive effort to fine-tune the compensation structure. All these should always be in line with the value being pro-vided by the employees.

Bundle of competencies

An employee has a bundle of competencies, each of which needs to be valued. In the computer software field, we can classify competencies under five major heads - domain, technology, project management, initiative and leadership. A software project attempts to computerize applications such as production scheduling in a manufacturing organization, trade settlement in a stock exchange or recoveries for an insurance company. An analyst developing the requirements for the system must have expertise in the specific business area such as manufacturing, securities trading or insurance. We call this business knowledge the domain expertise. A software designer must be knowledgeable about the technology that provides the platform for the system and makes it work. Similarly, project management is an essential area of expertise for a person leading a part or whole of a project, to ensure that resources are marshaled to yield effective results in the required time. Besides these, what makes a person valuable to the organization is the consummate acumen for enterprise and execution - the generation of ideas and the speed of implementation. These come under the umbrella of initiative.

Finally comes the quality of being an inspiration to others: Is a person a thought leader? The ability to apply a new technology in ways unanticipated is one example of displaying thought leadership.

We have defined different categories in which the skill-level of a person can be classified. This will bring out the breadth of expertise. We need to also know the depth of experience. There are four levels of expertise that are termed exposed, experienced, expert and excellent. A person who has merely gone through a training programme is only exposed to the technology. If he has practiced that skill in one or more projects for an acceptable minimum period, he becomes experienced. An expert is one who is recognized by his peers to be knowledgeable, to whom they turn for resolution of complex problems. Excellence is attained and proclaimed when an outside committee of experts in the field recognizes a person's expertise. This level is usually reached when a person passes an examination or is invited to become a member of an exclusive club of experts.

Therefore, a person's competency can be judged by looking at both the breadth and depth of his skills. The all-important question now is whether these skills are of value. For example, expertise in an old computer language, which has become obsolete, has little market value. However, before January 1, 2000, this rare skill was of great importance to people who still had running systems that used these obsolete languages. The value therefore is contingent upon the use to which the expertise is put. In the soft-ware field, as in most others, there is value to a skill so long as it is usable and there is effective demand for people possessing that skill.

Once we have determined that there is value, we need to establish its quantification. A skill has a value so long as it can fetch a return. One method is to look at possible returns over the next five years and thereafter discount the amount by an accepted percentage to arrive at the current value. This will require us to forecast the revenue that can be generated each year over the next five years for a person (for instance, a Java programmer). The attempt is to calculate the value of a competency at a point in time. Therefore, we do not bother about the additional value that may accrue to a person as he moves up the competency ladder.

A person has a set of competencies and a value is assigned to each of these competencies. The sum total of it is the value of an employee and the sum total of the value of all employees is the human capital of the organization. This human capital, together with the customer and structural capital produces the revenue.

When an employee leaves, an organization loses that much of capital as determined by the valuation given above. The organization's response to this situation should be guided by the value being lost. Unfortunately, there may be no escalation when a valuable employee leaves. The senior management gets into the act only when a very experienced employee leaves, irrespective of whether he has a higher or lower value than a less experienced person. An organization needs to look for a system for the scientific computation of employee values, stored in a constantly updated data-base, with triggers for intimation to top management based on employee valuation. Management can then be made to sit up and take notice whenever high-value employees leave, irrespective of the years of service. In fact, compensation across the board can be structured to be in line with this valuation system.

Why do employees leave an organization?

Compensation is only one of the factors and, unfortunately, that is the only factor looked into. A detailed survey on what would result in increased commitment to the organization, which intrinsically meant reduction in attrition would show that increase in job satisfaction as well as increase in opportunities at higher levels of value will have a positive influence. These resulted in a person moving up the expertise ladder. There are supplementary factors too, such as improvement in the work environment and elimination of irritants largely brought about as a result of bureaucracy. What kind of effort is needed to enhance satisfaction levels as well as eliminate irritants? It again depends on the potential value created or lost. A major factor for a person's loyalty to an organization is the compensation structure. The value of a person can certainly be a guiding factor in arriving at the appropriate compensation level.

Organizations are getting differentiated on the basis of the knowledge each possesses. In a world of constant technological changes, an organization prospers from the quality of its people. People who are relevant for today's work may not be able to meet the challenges of tomorrow. We need to get them to forget some aspects of today's competency and build the requirements of the future into them. Increasingly, the investment decisions of top management will not be restricted to the acquisition of brick-and-mortar assets, but of building additional competencies in people.

Human resources valuation has remained an academic exercise and largely ignored even in industries where the expertise of employees is the key differentiating factor. The process of valuation is complex and challenging. But unless we adequately assess the value of human resources, we will not be able to respond to future needs.

Company accounts currently record the costs associated with people, but not the benefits they bring. This is despite the fact that most organisations now accept that people represent the key driver of value in organisations.

Overall, there is no 'holy grail' in the evaluation of human capital - no single measure which is independent of context and which could accurately represent the impact of employee competencies and commitment on business performance. This is because human capital is, "non-standardized, tacit, dynamic, context-dependent and embodied in people."

However, it is entirely possible for organisations to measure and manage human capital using methodology designed to suit their own needs and goals.

Organisations need to get to grips with measuring and reporting on the value their people bring. This would enable stakeholders to make better-informed decisions about the long-term viability of an organisation and its ability to generate value in a fast changing world.

The organisations need to better understand and put in place key measures of the value which people add to the organisation, such as skills and qualifications, labour turnover rates, rates of innovation, the extent of team-working and key employee statistics in areas such as employee attitudes and demographic composition.

Today's organisations are using a range of sophisticated management techniques, including progressive people management practices. But research shows that they still do not fully understand how to adequately value what so many experts agree is the major source of competitive advantage.

If organisations were as poor at identifying and reporting on any of the other major resources at their command, their stakeholders would express immediate concern.

The importance of intangible assets

The area where human capital evaluation is currently practised most rigorously is the assessment of small concentrations of individuals who were seen as highly talented and critical to the firm's future.

By embedding these evaluations in management practices, and linking them to the business strategy of the firms, organisations may be capable of developing a more coherent and ultimately strategic approach to one of the most powerful, if elusive, drivers of competitiveness.

The increasing importance of such assets poses a major challenge to existing methods of accounting and valuation. The scale of that challenge is reflected in the size of the gap between the value of a company's tangible assets in its balance sheet and its stock market-value.

This growing disparity between market and book values not only reflects the growing importance of intangible assets. It also dramatically exposes the limitations of traditional accounting practices in identifying and measuring the value-adding elements of the firm.

A new role for HR?

The human capital perspective provides a new rationale for the role of the HR function, where HR is no longer viewed as a cost centre, but rather an asset provider. HR practitioners are conscious that methods which are too closely associated with their function may not be able to secure commitment from other groups in the organisation. This means that initiatives centred on human capital are often given an internal "brand".

The tension between HR and wider business concerns in the evaluation of human capital seems to have been reflected also in the development of small, specialised units to manage certain aspects of this activity. These developments highlight the development of new forms of expertise within and between HR and other functions. Such groups are seen as being linked more explicitly to change and innovation and the data that they generate is being developed for wider business reasons which are strategic rather than bureaucratic in nature.

Human Capital as a Foundational Asset

Human Capital valuation is required by analysts in order to give them more tools to objectively assess company viability. Studies have shown that financial analysts give around one-third (35%) of their estimations based on non-financial data. Without those metrics, this work is mere guesswork.

The human intellectual asset is, like many physical assets, hard to value. An insurance company will value your hand if you lose it, but how much is it really worth to you? Similarly, those attempts to value human assets of corporations are only approximate and not supposed to be a true science.

In software companies and many business services firms, the financial capital comes from the ability of the firm to transition the human capital into a structural capital that will be shipped out and consequently transition into financial capital.

It is beyond the scope of this article to analyze the ability of corporations to make those transitions happen. However, it is important to notice the critical factors that the human capital plays as the foundation of the financial capital. And if competence is the base of the structural capital, assignment is its skeleton. Based on management, vision and monitoring, structural capital is critical and is one explanation of the high rewards given to CEOs.

In corporations today there is a lack of competency management deployment in order to achieve the structural capital. Certainly, competency-based management systems do not insure a structural capital, they are though, a foundational tool that could enable the structure to take place faster and facilitate competitive positioning.

Human Resource Accounting

Any discussion of human capital implies that the people in the organization represent more than just expenditure; that they are not to be seen only in the income statement but more in the balance sheet as an asset.

Several models have been developed to try to quantify the intangible and specifically the human component.

- Cost models (Brummet, Flamholtz and Pyle) are based on the acquisition cost, including replacement and training costs and opportunity cost of human asset
- The Lev & Schwartz model, more monetary-centric, is based on the likely future earnings of an employee till his retirement

Instead of basing a model on age till retirement, it is recommended to base a model on turnover rate and capitalizing salary expenditures. Therefore, to compute the value of human capital multiply the number of employees by their salaries; multiplied by the average length of tenure per employee; multiplied by the average increase in wages per year; all discounted back to year one. The resulting figure represents the human capital value of the firm.

However, it is not the absolute value of human capital that is critical; but more its significance as an indicator of the importance that management should pay to it. Employees have moved from being a cost to becoming a resource and today they are considered to be an asset or a capital. Any careful management must take care of its assets and try to maximize the return on them. So the question now is how to maximize the human capital in a corporation?

Human Capital Maximization

The framework developed here helps explain the importance of human capital as a key component. Retention as well as optimization of skills can be seen as key differentiators to sustain business and financial viability.

Tools and technology are available to use in pursuit of those goals. Careful usage of skill-centric automation technology is a proven method to increase retention by better redeployment. Perhaps even more importantly, it also is a proven method for cost optimization of external human capital acquisition and real time skills inventory and enhancement.

Metrics and measurements, and use of technology are the first steps to maximize human capital, but also are the best methods to fill the gap between human capital acquisition execution and executive sponsorship.

Human resources and capital

Because human resources are so dominant in the wealth figures, and because they are derived residually, it is important to corroborate these estimates. A reasonable proposition would be that human capital—the return to education—should explain a large amount of the variation we see in human resource values. If we relate country-level per capita human resource estimates to a physical measure of human capital—mean years of education per capita—we will find support for this proposition. Specifically, we find that increasing returns are derived from the accumulation of years of education in the population.

This analysis therefore conveys a positive policy message: human resources can be built by investing in education. This is important, because the other constituents of human resources—raw labor and social capital—appear to be much less susceptible to policy intervention. Raw labor is a pure endowment, whose price is deter-mined by local market conditions. Social capital can certainly be destroyed by bad policies, but we still have a lot to learn about how it can be fostered and built.

Valuing human capital

Identifying and measuring the value of human capital can be a process worth investing.

The concept of value has essentially two different meanings. 'Value' expresses the utility or service of a particular resource (e.g. the future use of a capital asset) and the purchasing power of the resource (e.g. money, securities). If an object is not capable of rendering future economic services in the form of utility to the possessor, no value can be attached to it.

Employees are the most valuable resources of comparison in the service (software, banking, management consultancy, etc.) sector. Like all other resources of the company, the employees possess value because of providing future services.

"Human Resource Valuation means identifying and measuring value of human resources and communicating the information to the interested parties."

Why value our value ?

The need to meet the increasing business opportunities of future, and simultaneously maintain or improve upon the current level of performance, has made organisations to look consciously into the manpower as the future leverage for success. Coupled with the above mentioned situation, adopting a 'prudent and comprehensive disclosure policy' has become the key differentiating agent among players in the same industry.

These default factors has laid the foundation stone for the ongoing popularity of the Human Resource Valuation. In India HR valuation was first implemented by the public sector giants (e.g. BHEL, SAIL, etc.) For the last two years, HR value reporting has gained momentum amongst the software companies. These companies have valued their Human Resources which has been disclosed in their Annual Reports as a statement of intangibles (additional notes to the accounts). The benefits that result from HR valuation exercise are enumerated below :

A move towards investor friendly disclosure, to make them fully aware of the company's human assets. The investors can also assess the return on human capital, which is in essence the return they are getting from people who are managing their wealth / investment. For the foreign institutional investors, who are not fully aware of the day to day happenings of the company, HR value reporting is a decision making for investment in the company's equity.

An assurance to customers - the company has the human capital reserve to service their demand.
A feeling of comfort for the company's employees that they are assets and not expenses of the firm.
A future tool for better performance appraisal and manpower assessment. The management can also realise the present value of its future commitment of providing employee compensation.
HR value services as a benchmarking parameter with other value presenters of the industry.

In this section, we use the residual income model to estimate the valuation of labor expenditure by the capital markets and to determine the economic amortization rate for the asset human capital.

In attempting to put a value to human capital for the purpose of recording them as assets in financial reports, earlier studies focused on the value of *individual* employees to the firm. For instance, Lev and Schwartz (1971) argued that an employee's expected economic value to the firm corresponds to the future earnings of the employee for the remaining active service life. Therefore, the value of the total human resources of the firm is determined by aggregating the present value of services of all employees. Flamholtz (1971) improved on this model by allowing the possibility of employees' career movements within the firm or the possibility of employees leaving the firm before retirement or death. However, determining the probabilities of career movement and early exit for each individual employee is usually a highly subjective exercise, thereby limiting the practicality of this model for valuing human assets. Recognizing the difficulty in predicting the promotion or exit of individual employees, Jaggi and Lau (1974) developed a stochastic model that used the group basis for the valuation of human capital arguing that, as in actuarial sciences, predicting patterns in group behavior is easier than predicting individual behavior.

As evident from these examples, in order to put a value to a firm's human assets these earlier models started at the individual employee level and then aggregated these values for all employees within the firm. In contrast, this model starts at the firm level and estimates the value of all human assets as a proportion of the total market value of the firm. By evaluating the value of human capital as a portion of the total value of the firm, this method implicitly takes into account the complementarities and synergies among all employees and between employees and all other factors of production within the firm.

Valuation methodologies

Before suggesting an approach to HR valuation, let us look into the various methods available for HR valuation:

Historical cost method:

This method was proposed by Brummet to measure a firm's investment in human resources. The human resource costs are current sacrifices for obtaining future benefits and therefore to be treated as assets. The method suggests capitalising the firm's expenditure on recruitment, selection, training and development of employees and treat them as assets for the purpose of human resource accounting.

However, capitalisation of costs, besides being contrary to traditional accounting norms, does not reflect value. Also, accumulated costs of human resource acquisition and development may not reflect their value. Instead, total performance needs to be judged in relation to the total cost associated with HR to reflect their value.

Replacement cost method:

This method involves assessment of replacement cost of individuals, and rebuilding cost of the organisation to reflect HR asset value of both the individuals and the organisation. However, the replacement cost may not reflect either the actual costs or the contribution associated with HR.

Opportunity cost method:

This model envisages computation of monetary value and allocation of people to the most promising activity and thereby to assess the opportunity cost of key employees through competitive bidding among investment centres.

As an example, let us suppose that oracle applications development business unit's target ROI is 16% and it has a capital base of Rs.1,00,00,000 but its profit is only Rs.13,00,000 which is Rs.3,00,000 short of the target. It is felt by the unit that if it can acquire the services of a particular executive, its profit improves by Rs.4,00,000. The profits will be Rs.17,00,000, i.e., Rs.100,000 more than Rs.16,00,000 (the target ROI). Rs.100,000 capitalised at 16% comes to Rs.6,25,000 and the unit can bid upto Rs.6,25,000 for the services of the executive.

Behavioural model :

This model aims to establish a set of casual variables through psycho- social test results reflecting the appreciating or depreciating condition of human organisation as reflected by a set of intervening variables, which in turn, are likely to result in the achievement of the end result variables. The investments in HR value have been proposed to be amortised over the years in tune with the condition of the human organisation. However, psycho-social measures of the condition of the human organisation may not be reliable towards measure of HR as an asset in the absence of its established valid relationships with the organisational performance.

Economic model :

Lev & Schwartz advocated the estimation of future earnings during the remaining life of the employee and then arriving at the present value by discounting the estimated earnings at the employee's cost of capital. The formula adopted for computation of the present value of the future earnings is An extension to the above formula propounded by Lev & Schwartz is that one can consider the probability of the person dying before the retirement age.

Flamholtz proposed HR value on parlance with the roles the employees perform which is in accordance with the service state they occupy. The model also considers the present value of the future services at different service states and takes into consideration the migration of an employee from one service state to the other. However, the estimates of the employees occupying different service states in his/her career in the organisation can be highly probabilistic and unreliable.

Harmonson advocated the HR value as the present value of the future wages payable for the next five years discounted at the adjusted rate of return. The adjusted rate of return is the average rate of return on the owned assets of all firm in the economy multiplied by efficiency ratio of the organisation. This method attempts to bring into question the effectiveness of ROI of the industry on the assumption that there are no extraneous factors and that the results were due to efforts of the employees.

However, the model is very subjective as it considers the present value of the future wages only for the next five years, efficiency ratio based on the rate of return of the last five years and the assignment of weights to past rate of return.

Each model has its own negatives and positives when it comes to practical application. In an Indian context, the Lev & Schwartz model has an edge over the other models. Since the method has been widely adopted by Indian companies such as Infosys, DSQ Software Ltd., Satyam Computers, BHEL and SPIC, it enables the company to benchmark the performance and the efficiency of their human resources with others. The assumptions in this model are realistic and scientific. The method has practical applicability when availability of quantifiable and analysable data is concerned.

Suggested methodology

We may adopt the basic premises of Lev & Schwartz model for valuing their human resources of a company after parallely ascertaining a human organisational inventory (HOS) to assess the effect of qualitative human variables (e.g., employee job satisfaction, 360 degree peer evaluation, etc.) on HR value.

In a nutshell, the approach involves valuing the employees of the organisation by projecting the current direct and indirect benefits (cost to company - CTCs) enjoying by the employees (a future cash outflow to the company) till retirement and consequently discounting the CTCs at the Weighted Average Cost of Capital of the firm (WACC) to arrive at the present value which is to be furnished in Annual Report. The WACC is calculated taking into consideration the target debt equity proportion, weighted average cost of debt, and cost of equity adjusted with company specific beta value, volume of trading and equity premiums. The optimum HR strategy for the future can be formulated by combining groupwise HR value, the findings from the HR inventory, and analysing the efficiency of the recruitment and training cost centres of the company.

Some basic assumptions for HR valuation

Each employee's cost to company (CTC) should be forecasted and discounted back separately. Thus a separate database comprising compensation details, age and experience details, historical promotion pattern for each employee should be constructed. The database serves as a powerful MIS tool for value interpretation.

The growth rate of earnings of each employee till retirement should be determined for projecting the CTCs after looking into the company's compounded annual growth in CTC's for different employee classes, global industry trends for the future (e.g., what happens after 5 years when the demand for Y2K jobs in the software sector obliterates), and sustainable growth rates for the next 25-30 years given the nominal interest rates of the Indian economy.

The attrition rates for the company / industry should not be considered as a deduction factor, as the employees who leave the company will be replaced by others to maintain the level of operations, and thereby the employee strength remains unchanged (conservation of employee stock / inventory). This is also consistent with the going concern concept.

Underlying meaning of HR value

The HR value per se throws valuable insights into the HR strategy of the firm. On one hand, it is a value of the employees of the company - thinking differently managements should realise that HR value is the future commitment which the firm has to pay to its employees for the career span in the company.

Thus, a high or low HR value will have to be justified with the returns it can achieve. Hence the return on HR value (ROHA) should be the efficiency measure of human resources on a year to year basis. The ROHA factor will assist management to manage the value / commitment better in future years. The HR turnover ratio can also be taken as an indicator of efficiency.

Companies can also make a conscious move to capture its costs related to HR department by developing a human resource accounting system which compliments the HR valuation exercise. The system can provide cost clarity in all relevant areas related to the human resources of the company. In future, managements should begin to use HR value in regular MIS reports, in areas such as measurement of SBU profitability, SBU performance trend analysis, etc. which can fine-tune the appraisal system.

Implications for Measuring Human Capital Advantage

Given the high cost of human capital, one major category of metrics must capture a variety of measures of efficiency, such as sales per employee and unit labor costs. These "easy" measures are the ones that most organizations already have in place. They might unkindly be characterized as holdovers from the industrial era. That interpretation would, however, be unduly harsh. The more even-handed perspective is that these measures are, at most, only half the story.

The other half of the story, and the one much less well developed in most organizations, might be thought of as "short-run indicators of long-run success" (where long-run success is measured by the types of efficiency measures outlined above). This second category of metrics is the one that organizations must now master if they are to effectively manage human capital. These metrics predict the future performance of the company—the metrics that enable organizations to be driven with the steering wheel rather than the rear view mirror—the metrics that provide sound, analytically responsible guidance for improving, rather than merely justifying, human capital investments.

The tough question, of course, is "Just what the heck are these metrics?" Alternatively stated, "How do you figure out how to measure (make tangible) what matters, when what matters is so highly intangible?"

The findings laying out the "human capital value chain" are these:

1. In addition to being fairly compensated, people place high value on:

- Being in an environment where they can grow and learn and advance
- The managerial skills/abilities of their immediate supervisor
- Being treated fairly, appreciated and acknowledged
- Doing work that makes a contribution

2. These determinants of employee satisfaction drive employee retention

3. The retention rate among key employees drives customer satisfaction

4. Customer satisfaction drives customer retention

5. Customer retention drives profitability and other measures of financial performance including total stockholder return.

Embedded in this value chain are the metrics that provide the foundation for measuring and managing an organization's human capital advantage. For the most part, these metrics are inherently soft. Moreover, they focus almost exclusively on employees' assessments of how well an organization is doing in meeting the employees' requirements. This focus is likely to be met with resistance inside some organizations that rely on a more hard-nosed management approach. But like it or not, in a world where human capital advantage hinges on the principal of mutual gift giving, measurement of it is necessary for good management. So in addition to the traditional efficiency metrics, the existing research base suggests that key metrics to track include:

A. Employee's satisfaction with the quality of their learning/development opportunities

B. Employee's satisfaction with the management skills/abilities of their immediate supervisor

C. Employee's satisfaction with the extent to which they are treated fairly, feel appreciated and acknowledged for their work

D. Employee's sense that the work they do makes a difference

E. Retention rate of key employees

These factors can and should be linked to the harder measures of performance such as customer satisfaction, customer retention, sales per employee, and unit labor costs. In essence, metrics A-E above provide a research-based foundation for the human capital measures that matter—those that have consistently been demonstrated to be determinants of organizational performance. They provide a strong analytic foundation for the human capital inputs into a balanced scorecard type of measurement system.

These types of measurements provide an overview of how well people (human capital) is being managed. Another level of measurement below this one is also necessary to provide guidance on how to generate improvement in the measures outlined above. This next level of measurement captures the effectiveness of the "interventions" that an organization uses to improve its human capital advantage. A disproportionate emphasis should be given to measuring the effectiveness of an organization's learning interventions because these affect, either directly or indirectly through the quality of management, most of the items listed above in A-E.

Three categories of learning intervention measures should be captured:

1. Inputs—measures of the intensity of learning resources available to employees, including formal and informal learning opportunities.

2. Outcomes—intermediate measures of the effectiveness of learning (such as Kirkpatrick levels 2 or 3 for formal learning interventions or other comparable forms of employee assessment of effectiveness for informal learning opportunities).

3. Organizational Learning Capacity—an overall assessment of an organization's commitment to and capacity for learning

By studying the inter-relationship among these three categories of learning intervention measures, and between them and items A-E (the human capital advantage measures), an organization would develop a good understanding of how to better manage its learning interventions to drive performance through improvements in human capital advantage.

This is, of course, a tall order. Few organizations have the learning and data management infrastructures in place to do this type of analysis in a highly rigorous manner. But that should not be used as an excuse for doing nothing. As an insightful colleague is fond of saying, "The perfect should not be the enemy of the good." Those organizations that do launch sophisticated learning management infrastructures can begin to use the data capture capabilities they contain. These organizations then can analyze the determinants of human capital advantage and their link to performance in a much more rigorous manner than has been possible before now.

References

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