Quantifying HR

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Abstract

Any business operation aims at achieving the pre-determined goals in terms of reduction of costs, or increase in profits, enhancing the stakeholders' value and many more. The underlying process in these strategic decisions is well-planned, full proof and focuses on the return on investments. Human Resource is a discipline & function where quantification in monetary terms is difficult to determine because the object under study i.e. the human being is very dynamic and unique. We attempted to study a significant portion of this vast field of research through functions like Training & Development, Talent Management and Float Management. There are methods to evaluate the functions for their efficiency & effectiveness e.g. Questionnaires, Feedback survey, Evaluation forms etc.

Introduction

Quantifying human resources (HR) has become one of the most challenging and intriguing issues facing the human resources development (HRD) and performance improvement field. The interest in ROI during the 1990s was phenomenal; more so in the new millennium. This topic appears on almost every HRD conference and convention agenda. Articles on quantifying human resources appear regularly in HRD practitioner and research journals. Several books have been developed on the topic and consulting firms have sprung up almost overnight to tackle this critical and important issue.

Why quantify HR ?

Several issues are driving the increased interest in, and application of, quantifying HR. The most common are :

1. Pressure from clients and senior managers to show the return on their HR investment is probably the most influential driver.
1. Competitive economic pressures are causing intense scrutiny of all expenditures
1. The general trend towards accountability with all staff support groups is causing some HRD departments to measure their contributions.
4. To justify the existence of the various HR department by showing how they contribute to the organization's objectives and goals,
5. To decide whether to continue or discontine certain HR practices,

Benefits of Quantifying HR

1. ***Measure Contribution*** - It will determine if the program made a contribution and if it was indeed a good investment. Usage of ROI concept in measuring the performance of various function in terms of financial outputs, have allowed the HR function to crown the status of Strategic Business Units akin to other functions.

2. ***Focus on Results*** - The ROI process is results based process, which brings a focus on results with all programs. The process requires instructional designers, facilitators, participants and support groups to concentrate on measurable objectives - what the program is attempting to accomplish. Thus, the process has the added benefit of improving the effectiveness of all training programs.

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3. ***After Management Perceptions of the HR Deparment*** - The ROI process, when applied consistently and comprehensively, can convince the management group of the investment in the program & of HR Managers being considered as strategic partners to business improvement rather than implementers.

Basic Issues and Trends Concerning Quantifying HR

For many, the idea of quantifying what's in the hearts and minds of people runs counter to their basic values. Intuitively, they feel measuring people as if they were widgets is distasteful. And unlike pure financial metrics, HR data tends to derive from softer, qualitative sources - like surveys and interviews - making it less exacting than number-crunchers would like. Further many professionals argue that most models of the ROI process ignore or provide very little insight into two key elements essential to developing the ROI :

1) Isolating the effects of training
2) Converting data into monetary values

While most executives can logically conclude that HR programms can pay off in important bottom-line measures such as productivity improvements, quality enhancements, cost reduction and time savings, the frustration comes from the lack of evidence to show that the process is really working.

Criteria for an Effective ROI Process

1) It must be simple, void of any complex formula.
2) It must be economical with the capability to become a routine part of training and development without requiring any additional resources.
3) The assumptions, methodology and techniques used must be credible.
4) Ideally, the process must strike a balance between maintaining a practical and sensible approach and a sound theoretical base for the process.
5) The ROI process must account for other factors which have influenced the output variable.
6) The ROI process must be applicable with both hard and soft data.

The Approach Followed in the Paper :

For this research paper we have selected three most contemporary topics in the field of Human Resource Development namely :

1) **ROI on Training** : Training primarily deals with human performance improvement. Logically, it is this improvement which would be the cause of any boosted business bottom-line. Therefore, to maximize this increase in the bottomline and minimize the costs incurred in training programs, we need to identify the high impact training programs based on their ***monetary contributions*** to the organization.

2. **ROI on Talent Management** : Talent Management is the identifaction, development and management of the talent portfolio - i.e. the number, type & quality of employees that will most effectively fulfill the company's strategic and operational objectives. The ROI focuses on the identification and the development of the company's human capital.

3. **Float Management** : Float Management is management of human resources in a way that the right number of people is doing the job at any point of time. This is of particular significance in the industries where the attrition rate and the time taken to start contributing to the business are very high.

Collecting Post-Program Data

There are two viable options with the help of which post-program data can be collected :

1) Questionnaires
2) Interviews

Both have their advantages and disadvantages. The interview gives the researcher an opportunity to get more information. The best approach is to use a *patterned interview* in which all interviewees are asked the same question. The responses can then be tabulated to gather quantitative data on behaviour change.

But interviews are very time consuming and only a few can be conducted if the availability of the person doing the interviewing is limited. Therefore, only a sample of the trainees can be interviewed. This sample may not be representative of the population and it may not be prudent to draw conclusions about the overall change in behaviour based on the response of the sample.

Questionnaires, on the other hand, made distance a non-factor. Ranging from short reaction forms to detailed follow-up tools, questionnaires can be used to obtain subjective information about participants, as well as to objectively document measurable business results for an ROI analysis. Due to its versatility and straightforwardness of use, the *Questionnaire might be selected as the method of data collection.*

Isolating the Effects of Training

An easily implemented method to isolate the impact of training is to obtain information directly from the program participants. The effectiveness of this approach rests on the assumption that participants are capable of determining or estimating how much of a performance improvement is related to the training program. Because their actions have produced the improvement, partipants may have accurate input on the issue. They should know how much of the change was caused by applying what they have learned in the program. Although an estimate, this value will usually have considerable credibility with management because participants are at the center of the change or improvement.

Typical questions to determine

- What percent of this improvement can be attributed to the application of skills/techniques/ knowledge gained in the training program ?
- What is your basis for this estimation ?
- What confidence do you have in this estimate, expressed as a percent ?
- What other factors contributed to this improvement in performance ?

Participants who do not provide information on these questions are excluded from the analysis. Also, erroneous, incomplete and extreme information must be discarded from the analysis. To be conservative, the confidence percentage can be factored into the values. The confidence percentage is actually a reflection of the error in the estimate. Thus an 80% confidence level equates to a potential error range of +20%. With this approach, the level of confidence is multiplied by the estimate using the lower side of the range. The adjusted percentage is multiplied by the actual amount of improvement to isolate the portion attributable to training.

Although this is an estimate, this appraoch does have considerable accuracy and credibility. Five adjustments can be effectively utilized with this approach to reflect a conservative approach :

1. The individuals who do not respond to the questionnaire or provide usable data are assumed to have no improvements. This is probably an overstatement since some individuals will have improvements, but not report them on the questionnaire.

2. Extreme data and incomplete, unrealistic and unsupported claims can be omitted from the analysis, although they may be included in the intangible benefits.

3. Since only annualized values are used, it is assumed that there are no benefits from the program after the first year of implementation. In reality, leadership training, for example, should be expected to add value perhaps for several years after training has been conducted and implemented.

4. The confidence level, expressed as a percent, is multiplied by the improvement value to reduce the amount of the improvement by the potential error.

5. The improvement amount is adjusted by the amount directly related to training, expressed as a percent.

This process has certain disadvantage. It is an estimate and, consequentiablly, it does not have the accuracy desired by most. Also, the input data may be unreliable since some participants may be incapable of providing these types of estimates. They might not be aware of exactly which factors contributed to the results.

Several advantages make this strategy attractive. It is a simple process, easily understood by most participants and by others who review evaluation data. It is inexpensive and takes very little time and analysis, thus results in an efficient addition to the evaluation process. Estimates originate from a credible source - the individuals who actually produces the improvement.

The advantages seem to offset the

disadvantages. Isolating the effects of training will never be precise, and this estimate may be accurate enough for most clients and management groups. *This process is appropriate when the participants are managers, team leaders, engineers or other professional and technical employees.*

Converting Data to Monetary Benefits

Several methods such as calculating the cost of quality, using historical costs, using internal and external experts' inputs and converting employees time might be used but in cases of time and data constraints, the choice *to use estimates from participants* might be most viable.

In some situations, program participants are well capable of estimating the value of a soft data improvement. This method seems appropriate when participants are capable of providing estimates of the cost (or value) of the unit of measure improved by applying the skills learned in the program. The advantage of this approach is that the individuals closest to the improvements are also often the ones most capable of providing the most reliable estimates of its values.

Estimating Program Costs

While estimating program costs, all expenses, fixed or variable, which need to be included in program, must be taken into account. The items, which need to be included in program costs, would differ from program to program. A few commonly observed costs might be *cost of faculty, cost of accommodation and food for faculty and participants, travelling costs for faculty and participants, costs of reading materials,* etc.

The cost that is not taken into consideration but must be is the cost of *participants' time.* This element has been considered while trying to estimate program costs because this represents the time that the participants have spent attending the program, which otherwise they would have spent at the workplace. In order to represent participants' time on the program cost sheet, anything from basic salary plus bonuses plus allowances to cost to the company (CTC) might be considered depending on the level of conservativeness desired. Another method, which may be used to calculate participants' time, would be to use average or midpoint values for salaries in typical job classifications.

Calculating the Return

The return can be calculated in three different ways. They are as follows :

1) **Benefits / Cost Ratio**

One of the earliest methods for evaluating training investments is the benefits / costs ratio. This method compares the benefits of the program to the costs in a ratio. In formula form, the ratio is :

$$BCR = \frac{\text{Program Benefits}}{\text{Program costs}}$$

In simple terms, the BCR compares the annual economics benefits of the program to the costs of the program. A BCR of one means that the benefits equal the costs. A BCR of two, usually written as 2:1, indicates that or each rupee spent on the program, two rupees were returned as benefits.

2. **ROI Formula**

Perhaps the most appropriate formula for evaluating training investments is net program benefits divided by cost. The ratio is usually expressed as a percent when the fractional values are multiplied by 100. In formula form, the ROI becomes :

$$ROI\ (\%) = \frac{\text{Net Program Benefits} \times 10}{\text{Program Costs}}$$

The ROI value is related to the BCR by a factor of one. This means, for example, that a BCR of 2.56 is the same as an ROI value of 156%. An ROI on a training investment of 60% means that an additional 60% of the cost are reported as 'earnings'. An ROI on training investment of 150% indicates that the costs have been recovered and an additional 1.5 multiplied by the costs is captured as 'earnings'.

3. **Payback Period**

The payback period is a common method for evaluating capital expenditures. With this approach, the annual cash proceeds (savings) produced by the investment are equated to the original cash outlay required by the investment to arrive at some multiple of cash proceeds equal to the original investment. Measurement is usually in term of years or months.

$$\text{Payback Period} = \frac{\text{Total Investment}}{\text{Annual Savings}}$$

The TMS, although being a new concept, deeply impacts organizational excellence. TMS is a strategic tool focused on people management by systematically identifying keeping, developing & promoting the organization's best people.

The Model

This model is based on certain assumptions. Firstly, it has been designed for an organization in service industry. Secondly, an employee has a predefined hierarchical opportunity for growth. The talent pool that we are looking at is of the managerial cadre who join fresh in the professional band as MBA's. Through TMS they could be put on fast track growth after completion of one year in the organization and have the opportunity to be promoted for maximum next two levels in the growth structure.

Talent Management System is divided into three phases:

MLRP (Mgmt. Leadership Review Program)	Development of Coaching & Training	Assess-ment of the System

MLRP (Management Leadership Review Program: This program as proposed by Lance A. Berger includes individual development plans & fosters opennes about each employee's performance & potential. The program is used for Competency Assessment & for determining the Organizational Fit. A sample of determining the telent Pool is given below:

Employee ______	Designation ______		Assessor ______		Date ______
Competencies	Definitions	Ratings	Potential	PMS-Rating	Total
Intellectual Reasoning	Simplify Complexity, forming new concepts that lead people				
Achievements	Seeks for a better way by making improvement				
Motivation	exceeding standards of excellence				
Creativity Innovation	Generates novel ideas & develops or improves system. Takes risk & encourages innovation.				
Leadership	Has self confidence & self awareness, Empowers, Motivates people & focuses them on goals				

Employee ______________ Designation ____________ Assessor ____________ Date __________					
Competencies	Definitions	Ratings	Potential	PMS-Rating	Total
Action Orientation	Targets & achieves result, accepts responsibility, follows through on action				
International Skills	Effectively & productiviely engages with others & establishes trust & confidence				
Emotional Fortitude	Deals with high pressure situations in an even handed way				
Team work	Knows when & how to attract, develop, reward & utilize teams to optimize results				
Technical functional Expertise	Demonstrates strong functional proficiencies & knolwedge in areas of expertise				

Notes

Competency Ratings : Scale of 5 where 1 (doubtful); 2 (negative display); 3 (marginal display); 4 (satisfies the current job situation); 5 (displays potential for upper positions)

Potential : 1 (none); 2(marginal); 3 (lateral); 4 (Promotable); 5(Unlimited/high potential)

PMS Ratings : 1(greatly below expectations); 2(below expectations); 3(meets expectations); 4(exceeds expectation); 5(Greatly exceeds expectation)

In the above assessment the cutoffs are decided for identifying the high potential people. For e.g. a minimum total score of 85 is needed for an employee to be put on a fast track growth. In addition to this an employee must have a score of 10+ on at least 3 of the competencies.

Coaching, Training & Development Programs

A training program is designed for a year including job Rotations, Interim & emergency assignments. Task force assignment, internal education and training programs, guided readings etc. Also a mentor should be assigned to the high potential managers.

Calculation of Return on Investments on the Talent Pool

The ROI on talent management will be defined by productivity & profitable growth as determined by whether or not the company has the right number, type, and quality of talent to achieve competitively high levels of productivity & generate long term profitable growth. Thus the organization must consider the actual & potential contribution of each of its employees as to productivity & profitable growth.

A study shows that the **EVA** (Economics value added) of personnel increases with the complexity of job. For example in a first level supervisory or technical job a superior performer produces 32% more than the average Performers. A managerial level, which is the focus of our study i.e., professionals & executives the superior performaners are 48% more productive than average employees.

As we know that all the employees of the organization fall on the *Normal Curve of Performance*, for our analysis we have taken 10% of the professional band as superior performances i.e., every year we identify the top 10% of the managers under study as high potential people.

Following are some ways that could be used to calculate ROI

1) A *job evaluation score* is obtained of the senior positions. This is the monetary value that any position contributes to the organization's profitability & productivity. A high potential person, when promoted to such grades of management is expected to contribute at least this much of monetary benefits. Over & above that the contribution made is due to the talent Development.

2) In the changing environment, we see a lot of projects being under taken by the companies. These projects ranging from a period of 12 = 18 months could be a platform to evaluate the efficiencies of the talent pool.

3) **Cost-Benefit Analysis**

Program	**Costs**	**Benefits**	**Net Effect**
MLRP	• Assessment Centre • Performance Appraisal • Cost of time of People involved • Cost of preparing the Individual competency assessment	• Improvement in Job performance of the assessed after knowing the potential & SWOT analysis	Difference between the two the returns
Training & Coaching	• Cost of training Programmes • Cost of MDP(s) • Cost of time in Mentorship programs, job rotations etc.	• Measurable business accomplishments • The time taken to achieve targets	-- Do --

4) There are validated models which help in estimating the potential economic value added from various talent management activities :

HR Interventions	EVA of a effect size	Average % effect size HR application can make
Selection	$ 1000	**19 %**
Feedback	$ 1000	**11 %**
Training	$ 1000	**40 %**

The % effect size that HR applications can make (from the published Meta-Analytical studies, Spenser, 2000).

Float Management

Float Management refers to maintaining extra resources at any level in the organization to mitigate the impact of attrition. Usually, floats are not maintained at the higher work levels in an organization. This concept can be applied to any industry, but is generally more valid where the attrition rate is high - programmes in IT sector, the salespersons in the Insurance companies etc.

Here the objective is to decide how much float is feasible for an organization on the basis of its attrition rate. By this we mean that floats will be decided to be maintained only if the benefits override the costs.

What do floats do ?

Here we are only talking about the people in the free pool. Managing their motivation can be quite a challenge. Typically, people would start looking outside for better opportunities within 3 weeks of being in the free pool. Therefore, effectively utilizing the time of the floats such that they contribute to their own self development in a manner which they believe is useful to the company is critical. Many activities can be successful in achieving this end. These could be :

a. Training / Certification program / Computer based training
b. Knowledge Management
c. R & D Activities
d. Solution development

Here the floats may develop solutions for a client based on work that has already been done for another client. It is futuristic in the sense that they predict that a client might turn to them with a particular kind of project.

e. Pre-sales activities
f. Shadowing
g. Other initiatives

Feasibility Analysis

The Model

Let number of officers in a unit = x
Let attrition rate = p% per annum
Let T months be the average time of search for replacement
Define void cost, v, *to* be cost to the company if an officer post is unoccupied for a month

Total void cost to the company in a year = $(p/100)*x*T*v$

Let differential cost of replacement for one officer (including recruitment, training and ramp-up of new officer) = R
Annual cost of replacement = $(p/100)*x*R$
Therefore, annual cost to the company due to attrition

= **Annual void cost + replacement cost**
= $(p/100)*x*T*v+(p/100)*x*R$

Suppose now, that q% float is built into this system, i.e., $x*(1+q/100)$ officers are hired instead of x

Annual cost of retaining extra hires (s is salary per month) = $(q/100)x*s*12$

Void cost becomes zero

Cost of replacement is reduced drastically

The float system will be feasible if

Annual cost due to attrition with float system < Annual cost due to attrition without float system, OR

$$(q/100)*x*s*12<(p/100)*x*T*v+(p/100)*x*R$$

OR,

$$q < p*(T*v+R)/12*$$

Utility of the model :

- To decide whether maintaining floats will be feasible (only if q is +ve)
- Float must be built only if q is considerably large (say > 10%)
- How much float ? - will be decided by 'q'

Working out the above model needed a lot of data which is currently not available. Such a model is easy to apply to the sales & marketing field force where 'void cost' can be said to be the amount by which thesales revenue will fall as a result of one person less in the team. However, calculating 'void cost' for functions like HR, legal and commercial can be tricky. A financial model of calculating the worth of the position or cost of the job to the company may be required to be followed. It can also be related to the job evaluation scores.

Conclusion

The debate still rages on as to whether or not it is possible to quantify the contribution of HR to the organization accurately. In order to deal with this issue, what must be understood, is the very purpose behind quantifying HR. The very idea of quantifying the various activities of HR is to enable management to understand which HR systems and procedures are contributing the most and which are not at par. This would ensure that investments in HR functions and systems are well planned and linked to business results.

The business of business will always remain the same - to invest some money in order to make more money. A certain amount of money is always investd in various human resoure programs and initiatives. Leaders of business will always desire to know the outcomes of such investments. Traditionally, the HR department has depicted the outcomes of such programs by showing soft improvements such as increased morale or greater team bonding. But the language of business was, is and will always be money. Every department or business unit within the organization must learn to speak this language. This undying fact will ensure that the human resource department of every organization must, sooner or later, resort to quantifying the outcomes of HR initiatives with the aid of hard figures; namely *business bottom-line impact*. The organizations which resort to such techniques sooner will most certainly find themselves surging past those who opted for the same later.

This is a moment in time where we see evolution before our very eyes and as it was throughout the sands of time, this time too, we will see the survival of the fittest. The business environment will select in those who adapt to the needs of the new environment and select out those who failed to do the same. The line which will separate the two grows clearer by the day. What remains to be seen, is how many manage to act quickly enough to keep themselves on the right side of the line.

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