

HUMAN VALUE ADDED

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THE present paper is based on the research being carried out at SHTR Consulting Group (SCG) with a mission to develop strategies to create a work culture in the organizations where the people become the centre for all concerns. The research in this area is an ongoing project of SCG keeping in mind the continuous improvement in not only the processes of organizations but from the point of view of development of human mind and the realisation of the self. The journey started in 1989 when the first author started working on his doctoral thesis in the area of quantifying and measuring the most important creature on this earth with a purpose that they get the due recognition not only in thoughts but also in action of people managing them. To promote this vision and mission an NGO was formed by like-minded people mainly from academics i.e., Society for Human Transformation and Research (SHTR). The first attempt to develop a tailor made model for valuing people was for the Turner Morrison Group (Singh 1999b). To carry it further in the field of business transformation an international research project was undertaken by SCG (Singh et.al. 1999a). The sample of the study was 696 respondents from different parts of the world. It was found that people must be given due importance right from the conceptual stage of transformation to make it successful and sustainable. All these research studies created a need to develop an information system so that it becomes a decision support for the decision makers in the organizations.

The present paper is a brief overview of the doctoral work of the first author, consultancy work of SHTR by developing a model, and the conversion of the conceptual and empirical models into a Human Capital Information System (HCIS). The conversion has been mainly done by a team of IT professionals of SCG headed by the second author under the guidance of the first author.

Human Capital: A Conceptual Framework

Organization treats human beings primarily as an input in the production process - a means (resource) rather than an end. Human beings deserve to be treated as 'humans' as an end rather than means to an end i.e., a resource. Welfare approaches look at human beings as beneficiaries and not as agents of change in the development process. It puts people at the center of its concern. Human Capital/Asset is more relevant in this context which focuses in a systems framework all issues in society - whether economic growth, trade, employment, political freedom or cultural values - from the perspective of people. It focuses on enlarging human choices which in principle are infinite and can change over time leading to enhancement of human capital. **It is clear from the above that the word human resource needs to be redesignated and that is why the authors prefer to use the term Human Capital instead of Human Resource.** Human Capital is now subject to various levels and dimensions as illustrated in Table 1.2 (Coleman 1988, Fukuyama 1995, and Goleman 1996).

Table 1.2 Level and dimensions of human capital

<i>Level/ Dimension</i>	<i>Politics</i>	<i>Economy</i>	<i>Sociology</i>	<i>Psychology</i>
Individual	Increase skills level	Increase earnings	Increase equality	Increase self-esteem
Enterprise	Comply with surrounding society	Increase competitiveness	Improve the enterprise image	Improve work environment
Government	Complement labour market and employment policies	Share the costs related to education and training	Implement the lifelong learning concept	The notion of a dynamic government/society

It is clear from the above that Human Capital can be viewed from different levels and perspectives. Some people have defined it from the market perspective like OECD (1998) “the knowledge, skills, competencies and other attributes embodied in individuals or group of individuals acquired during their life and used to produce goods, services or ideas in market circumstances.” There can be other ways to define human capital which can be more wholistic in nature. Before we attempt that let us see Table 1.3 which shows the growing stages of reporting on human capital at enterprise level from accounting framework, to internally oriented management framework to globally oriented management framework and beyond (IASC 1998).

Table 1.3: Stages for reporting on human capital at enterprise level

<i>Stage</i>	<i>Characteristics</i>	<i>Period</i>	<i>Methods</i>
stage 1	Human capital within accounting frameworks	From early 1960s	- Human resource accounting - Some utility analyses
stage 2	Human capital within internally oriented management frameworks	From late 1970s	- learning organisation, - knowledge management,
stage 3	Human capital within globally oriented management frameworks	From early 1990s	The balanced scorecard
stage 4	Human capital as audit systems	From early/mid 1990s	Investors in people, Benchmarking measures

Source: International Accounting Standards Committee 1998.

It is evident that there is shift in focus in the past few decades and a growing demand for an information system which provides solutions to those areas of human capital also which were not considered due to measurement difficulties.

Valuation of Human Capital: A Conceptual and Empirical Analysis

The value of human resource depends upon the contribution in achieving organisational goals. However, it is difficult to measure separately the contributions made by different assets to the output. The assets other than human are recorded at the cost incurred in getting the right to use and hold those assets as a surrogate measure of value but Human Assets are deprived off this treatment.

Although the periodic reporting principle makes it obligatory to classify between revenue expenses

and capital expenditures on the basis of their expected benefits, so as to show the Capital Expenditures as Assets of the Organisation at the date of financial reporting and match the current costs with the current benefits to show the profits during the period being reported, the expenditures incurred on Human Assets are charged from the Income Statement in the year of expenditure under the present practices.

This would have been correct, had there been no periodic reporting so that at the end of the venture whatever more is left is profit (less is loss). But due to the longer uncertain life of the business concerns, periodic reporting is necessary, hence the need for classifying between capital and revenue. To make the above objectively verifiable the Accountants generally use historical cost by assuming the 'Going Concern Concept'.

The Going Concern concept of accounting says that the principles of accounting can effectively be applied and used only when we assume that the business has a long life which is not definite. If this is so, one logical deduction can be that the job positions shall also continue for a period which is not definite. That means the job positions held by humans are utilised by the organisations for a longer period. It, therefore, can be concluded that benefits received by the organisation, from human acting as a resource holding different job positions, are for a longer period. The identification of benefits and the costs involved in continuously getting these long term benefits are the major elements of Human Capital Accounting. The matching of the costs involved with the benefits from Human Capital in the relevant period and capitalisation of the residual costs are required for financial reporting for which no model exists which is generally acceptable to accountants.

Many people accept while giving speeches that Human Asset is the most important asset of the organisation, even then this asset could not find place in the Balance Sheet of Companies which is a contravention of the convention of disclosure.

The first author conducted a research study to develop a model which would be acceptable to the people for taking decisions about Human Asset/Capital in the organizations. (Singh 1996). The hypotheses of his study and other details have been listed below which was the starting point of this ongoing mission of SCG.

Hypotheses

The basic hypothesis upon which the study was based is that organisations consider Human Resource as Assets of the Organisation and incurs Capital Expenditures on acquiring, developing, and retaining Human Resource apart from incurring revenue expenses on them. In order to prove the basic assumption and investigate the objectives, the following specific hypotheses have been listed:

1. The Organisation intends to retain the existing Human Resource of the organisation until the useful service life of the Human Resource.
 2. There exists a positive relationship between the decision of the Human Resource to remain in the organisation and the efforts of the organisation in this regard.
 3. There exists a positive relationship between development of Human Resource by the organisation and the benefits from these efforts.
 4. The accounting treatment of cost incurred on acquisition of Human Resource does not comply to the principle of matching of cost and revenue.
 5. The accounting treatment of training and development cost incurred on Human Resource does not satisfy the matching of cost and revenue principle of accounting.
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6. The accounting treatment of cost incurred in retaining the Human Resource is not compatible with the matching of cost and revenue principle of accounting.

Research Methodology

The study was based primarily on the use of primary data generated through structured questionnaire and personal interviews. The questionnaire was issued to the executives personally by the researcher with the assurance that the information and opinion expressed in this survey shall be exclusively used for research purposes only and shall be kept strictly confidential. The organisations were also assured of confidentiality. The primary data was collected from 1991-92 to 1994-95. The secondary data was collected from 1989-1995. In a study of this kind, generalisations of results with a fair degree of validity are possible when the samples are drawn from different organisations spread out through the length and breadth of the country. However, due to constraints of resources and time sample was drawn from organisations located in twenty six important cities covering twelve states. Business Organisations representing a wide range of activities such as manufacturing, mining, construction, and service activities numbering 225 were covered. These organisations were taken on the basis of Judgment sampling in order make the study more representative. Out of 428 Questionnaires issued to the executives, 264 were received and out of these 225 were fully answered and usable for part II and 125 usable for part III, IV, and V. The response rate of 62 % can be termed as satisfactory in view of experience of the earlier researchers. The respondents were asked to tick mark the appropriate number ranging from 1 to 5 on a five point scale, viz., 1. Strongly agree; 2. Moderately agree; 3. Agree; 4. Moderately disagree; and 5. Strongly disagree. The data generated from these statements has been classified into four sectors as given below and Chi-square test has been used to test whether there is significant difference of opinion between the respondents of four sectors or not. The scale index (mean) has been calculated to find the average score on five point scale to make the analysis easier. The sample selected has been classified into four broad categories or sectors namely: 1. Private Sector Service Company/Organisation (PSSC); 2. Government Sector Service Company/Organisation (GSSC); 3. Private Sector Manufacturing Company/Organisation (PSMC); 4. Government Sector Manufacturing Company/Organisation (GSMC).

The table 1.1 provides an analysis of the results to understand the perceptions of Human Resource regarding Human Resource cost and value. Twenty statements related to human resource cost and value were asked from the respondents. The data of twenty statements are compiled in T 1.2 to 1.21 and a summary of Chi-square values and scale index of 20 tables is shown in Table 1.1 where it can be observed that only two (T 1.17 and 1.20) Chi-square values are showing significant difference and in the rest of tables there is no significant difference between different sectors. The other tables have not been discussed in the paper and only the major conclusions have been listed to have proper focus on HVA and HCIS.

Conclusions

1. The Organisation intends to retain Human Resource and the Human Resource responds to the efforts of the Organisation in this regard. Hence it can be concluded that Human Resource stays in the Organisation for a relatively longer period provided he/she is satisfied with the compensation and other facilities available to him.
 2. Training and Development programmes results in increase in productivity which is relatively stable and last for a period more than a year, hence the cost incurred on these programmes should be capitalised and allocated over a period of benefits received.
 3. The Profit and Loss Account and the Balance Sheet based on historical cost and matching of cost and revenue principle can not show a true and fair view unless cost aspect of Human Resource is duly incorporated. The benefits from Human Resource will accrue for
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Table 1.1: Summary Table Regarding Human Resource Cost And Value

T. No.	Particular of Questions Asked	Chi-Square	Scale Index
2	Criteria for Asset is long term benefits	6.200777	1.648888
3	HR if stays for long must be shown as Asset	13.48233	1.742222
4	Matching requires Acquisition cost allocation	9.539417	1.724444
5	HR serve the Org. for a long period of time	9.193869	1.466666
6	Benefits from HR is for a long period of time	5.173333	1.795555
7	Matching principle should be applicable on HR	4.795648	2.057777
8	P&LA/c can't show true & fair view without HRA	3.907423	2.071111
9	B/S can't show true & fair view without HRA	3.027696	1.968888
10	Compensation received by HR is value to him	5.001389	1.64
11	Compensation paid to HR is cost to the Org.	5.020825	1.64
12	HR value related to contribution by HR in Co.	6.247971	1.546666
13	HR cost is relevant for final accounts	6.043077	1.782222
14	HR value is relevant for Management A/cing	7.929464	1.608888
15	HRA can be compatible with Financial A/cing	4.248012	1.968888
16	HR Repl. Cost useful for HR turnover decision	4.620754	1.782222
17	HR Retention Decision needs opportunity Cost	87.78123*	2.377777
18	Allocation of Acq., Dev., & Retention cost	6.227619	1.777777
19	Org. is liable to pay for service life of HR	12.39634	1.902222
20	HR joins Org. Keeping in mind total package	52.91873*	2.124444
21	If liable on hiring HR than like Hire P. Asset	8.224566	1.982222
	Total of Scale Index		36.60887
	Combined Scale Index		1.830443

Note:1. T no. 2 to 21 represents data for 225 respondents.

2. * represents significant value of Chi-square.

a long period of time, hence the cost incurred on Human Resource : acquisition, development and retention should be properly capitalised and only duly allocated portion should be incorporated in the Profit and Loss account. The capitalised portion of Human Resource cost should be shown in the Balance Sheet on the basis of expected future benefits as we show assets purchased under hire purchase scheme in the Balance Sheet.

- The value of Human Resource is purely related to the contributions made by the Human Resource for the Organisation which is more relevant for Management Accounting instead of financial accounting based on historical cost and matching of cost and revenue. Hence it is of no practical relevance to use cost as a surrogate measure of value of Human Resource for showing it as additional information which some of the Organisations are doing.
- The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention decisions respectively.

The decisions regarding Human Capital (HC) can not be taken properly unless the relevant, timely, and accurate information regarding HC is made available to the decision makers. Hence the need for properly accounting for Human Capital becomes important. To fulfill this need the SCG decided to work further in identifying the important factors that are relevant in taking decisions.

Facets of Measurement of Human Capital

The Value of each individual working in an organisation is based on the contributions made by that person to the organisation for which organisation incurs certain costs. The costs incurred by the organisation is generally less than the contributions made by Human Asset. The important facets to be considered are Acquisition Cost, Development Cost, Current Retention Cost (Gross Emoluments including maintenance and separation cost), Current Performance Appraisal Index (Key Performance Areas Index), Job Satisfaction Index, Future Retention Cost (Future Gross Emoluments including maintenance and separation cost), Potential Appraisal Index, Experience Index, Total Experience of the Employee, Organisational Experience, Measurement of Total Human Capital Value of the Organization, Organizational Climate, Organizational Efficiency, Industry's Efficiency, Labour Turnover, Labour Unrest, Output Per Employee, et. al.

Box 1: mySAP.com™ Human Capital Management

Increased competition means that it is more important than ever to find, develop and retain quality employees. A company's human capital has become one of the most critical competitive differentiators. mySAP.com™ Human Capital Management is a powerful set of integrated processes for automating and optimizing human resources management, freeing employees for more important services and streamlining the flow of information companywide by integrating HR processes with business processes and line functions. mySAP.com Human Capital Management uses state-of-the-art technology, including modern workflow technology, to speed up and enhance business processes, bolster Internet and intranet capabilities to give companies access to a global marketplace, and provide self-service applications to empower employees and managers to conduct HR transactions and access information for doing their jobs faster and more effectively.

mySAP.com Human Capital Management provides unmatched depth and breadth of functionality. Its applications support everything from basic administrative payroll and benefits functions to leading-edge personnel development and compensation programs with standard country-specific solutions for more than 35 countries. For customers with other applications from SAP™, powerful integration provides seamless companywide information sharing and significantly reduces redundant transactions and entries, saving time and money. Human Capital Management applications from SAP are being used by 5,000 companies worldwide.

Source: Fact Sheet, June 2000

Human Value Added: A Conceptual Framework

It is evident from the above discussion that concern about people is increasing as the organizations have realised the importance of the strategic role of human capital. The surplus generated by an organization can be attributed to many factors which are managed by human capital. Due to measurement problems an easy answer was found by the accountants to term it as Goodwill. It has been observed that whenever there is a merger or takeover and if the management of the bigger entity is more efficient, the share prices rise which reflect the sentiments of the shareholders about the improvements that are likely to happen in the new entity because it would now be managed by a more competent team. In effect what the share holders actually perceive is an increase in the quality of human capital of the organization. There are numerous examples of mergers and acquisitions that failed to deliver the goods promised, despite the Economic aspects

of the exercise being highly promising. On the other hand there are recorded instances of many organizations choosing not to go ahead with a merger or an acquisition if they felt that the effect of the same shall not be positive for the Human Capital of the either party. This is a clear indication of the fact that there is a high degree of positive correlation between the quality of human capital of an organization and its performance.

Merely quantification of the Human Capital, is not enough. The organization needs to be able to identify, measure, monitor and interpret the effect of change of organisational policies, organizational culture, compensation package, etc., on the human capital.

One key feature of HVA is that like all other “Quantified Vectors”, its measurement is meaningful not as an absolute value but as a measurement of change or deviation in delta THC_{CV} from a base value selected THC_{CV base}, or the change with respect to a weighted mean average of all the THC_{CV} values calculated over the interval for which the data is available.

So,

$$HVA = ? (THCV_{base}) ? THC_{CV_1} - THC_{CV_0}$$

$$HVA = THC_{CV_{Current}} - (? THC_{CV/n})_{t_n}^{t_1}$$

The empirical basis for HVA needs to be ‘differential’ in orientation rather than ‘absolute’ to avoid the statistical fallacies of progression.

In the reporting utility of the HCIS the values of HVA are shown as a Graph with a base line demarcation of the HVA value selected as the base value for the graph.

The “Sensitivity Index” of the HVA however needs to be determined by careful analysis of the available data regarding (THCV) or by functional verification.

One Key thing that follows as a logical conclusion from the above discussion above is that the contributory factors to HVA need to be integrated not as precomputed “Constants” but as functions whose behaviour is defined by a discreet many-many mapping over different intervals.

So,

$$HVA = ? F(x)$$

where,

$f(x)$ can be a *function of a function* $fog(x)$

or the behaviour of $F(x)$ over a range x_1 -- x_n .

The Human Capital Information System (HCIS)

To provide ease of valuation and information at the click of the mouse, it was felt to create an information system dedicated to human aspects. Probably, for centuries people did not try to do complex measurement about human capital because of lack of computing models and facilities. The authors and the SCG team were tempted to develop an information system to provide solutions to these issues to enable decision makers to take right decision at proper time.

Hence, HCIS is a user friendly information system to provide decision support to managers pertaining to all the aspects of human capital/asset. Various authors (Hermanson 1964; Hekinian et. al. 1967; Likert 1967; Brummet, Flamholtz and Pyle 1968; Likert 1968; Flamholtz 1971; Giles and Robinson 1972; Lev & Schwartz 1972; Flamholtz 1973; Morse 1973; Friedman 1974; Jaggi,

Bikki and Lau 1974; Chakraborty 1976; Ogan 1976; Watson 1978; Dave 1987, Coleman 1988, Fukuyama 1995, Goleman 1996) have contributed towards the development of model base which can be used by HCIS and more models can be developed to suit the requirements of the specific decision making requirements of an organisation. The authors has developed a model which has been discussed below:

The HCIS is a software designed strictly in accordance with object oriented design and methodology. This makes it not only a lot scalable and the customization a lot easier but also makes the integration of HCIS with other information system simple. The design model of HCIS is given in the figure 1.1 on the next page.

The description of major Components of HCIS is given below:

1. The Knowledge Engine (KE)

The Knowledge engine is the brain or the heart of HCIS depending on your choice of the metaphor but the bottomline is that the core functionality of HCIS- *the model of valuation for Human Capital* is encapsulated in this component. The Knowledge engine with in itself encapsulates the Statistical Logic and an interface for database read and write. The DB operations have been encapsulated by way of a generic interface to make the KE independent of storage strategy or solution deployed. Taking into account the fact that continuing research on HVA adjustments to the sensitivity index and customization of applicable parameters shall require continual updation of the KE also. The entire application is designed in a manner such that the updations to KE can take place without requiring any major changes to the rest of the application.

2. Database Access Methods Layer (DBAM)

The knowledge engine uses a set of methods consisting of a generic interface to all data sources and repositories. This allows for the KE to use technologies like XML as a database, making the solution truly platform independent. It is in the DBAM layer that the lower level database access methods are implemented. Use of XML at this layer totally encapsulates any customization that may be required for use with a particular storage solution. Further this also allows for open ended connectivity with third party tools. The entire design of HCIS has been under taken keeping in mind that further research, development and customization in the KE can be under taken with out requiring any change to the rest of the application.

3. Generic Information Parser Layer (GIP)

The GIP layer makes use of the DBAM layer to once again implement an interface for other systems to access information from the KE. This layer is designed to allow the HCIS to be integrated as a module of other enterprise wide solutions including an ERP solution from any other vendor. Other OLAP or OLTP tools can also access the information base of the KE at this layer.

4. Database Management System (DBMS)

For the HCIS to be used as an effective decision making tool the organizations are required to enter the details of their human capital ideally as often as they can or as often as they deem necessary. In case of large organizations this data itself calls for a well planned datawarehousing strategy, which in turn can be effectively implemented using a RDBMS solution which this layer signifies.

5. Translational Access Point (TAP)

If the organisation chooses to implement the HCIS as a stand alone decision making tool for Top management it is important for such a system to have an extensive *what if analysis*

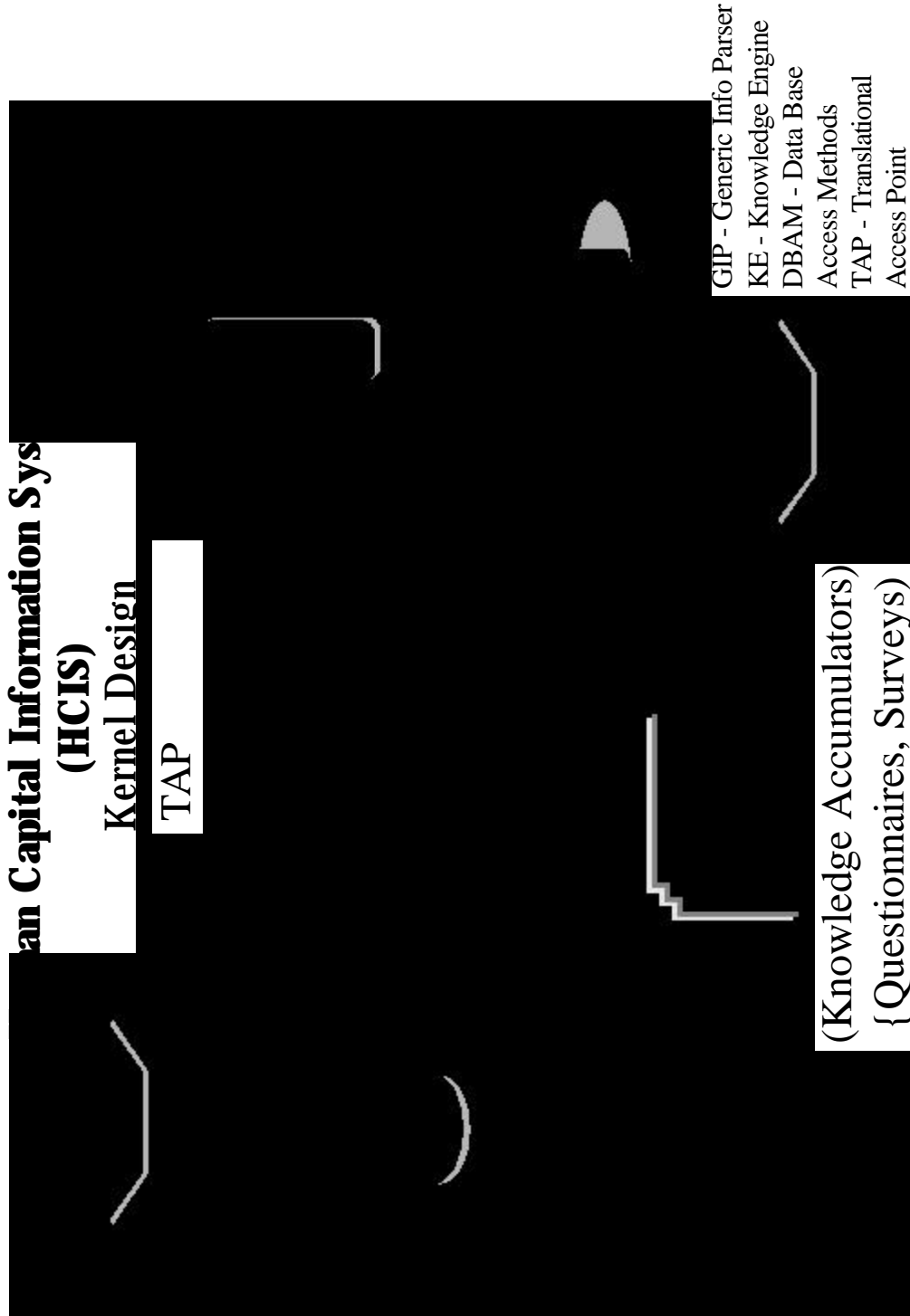


Figure 1.1: Design Model of HCIS

capabilities and extensive in built reporting feature. The Wrapper module that accesses the TAP is essentially the symbolic representation of code stubs written to integrate the third party reporting tools with the software. The output of thence ensuing analysis can either be an input to a dialogue management interface there by allowing its use as a stand alone Executive Information System. Using the wrappers layer the system might be integrated with other EIS also as a special scenario planner.

6. Knowledge Accumulators (KA)

The KA interface encapsulates in itself a wide set of tools and techniques for gathering the input for HCIS. This interface of the HCIS requires maximum customization during implementation.

Different tools used at this interface could be as simple as structured questionnaire or as case specific as a careful statistical analysis of the data available with the organization about the changes directly affecting the Human Capital and the Productivity. If proper system study, planning and interface design activity is undertaken then all the data ranging from the gross emoluments to the current employee stress level and other medical history can be used as input at this level and be used to contribute to the parameters measured by the HCIS.

7. Scenario Planner (SP)

Along with the reporting facility an advanced scenario planner has also been integrated with the HCIS. This allows for the decision makers to measure the effect of any decisions of action of the management on the Human Capital. Since the predicitive capability of the planner is definitive in nature drawing heavily from the statistical models on trend analysis and not merely probabilistic, it empowers the managers to plan for development of Human Capital with greater accuracy. The design of the interface has been kept very intuitive in nature and design. Speech Enabled query interface and help sections make the interface highly user friendly.

Model For Human Transformation

Figure 1.2 shows the different stages of human transformation along with the objectives, and milestones for each stage with the ultimate aim of achieving perfection in all activities (0 defect level). The final spiritual needs were realized by Maslow too (through later) as the Sixth need in the Maslow need hierarchy theory. This model also provides a comparison between the 5 level P-CMM (SEI, CMU, 1998) and the Six levels of Human Transformation and hope that the proponents of the P-CMM will also in due course of time realize the need for giving attention to the need for spirituality and wisdom based management leading to perfection, a stage beyond optimization, by the transformation of human beings which is sustainable.

Growing an organization is just like bringing up a new born which requires lots of care and guidance at all times. Authors would like to reiterate that sustainable development and growth can only take place by the transformation of human beings. In the discussions that follows the authors have tried to develop a parallel between a new born growing up into a mature member of the society and the growth of organization from inception to being number one in their respective fields.

Level 1 for an organization is in spirit similar to being an infant, who can be groomed in any way, and it is the direction that generally determines the future successes and failures of the child. Similarly when a new organization takes birth it is the vision and values of the people and the culture of the organization that it starts with that determine what kind of growth it achieves.

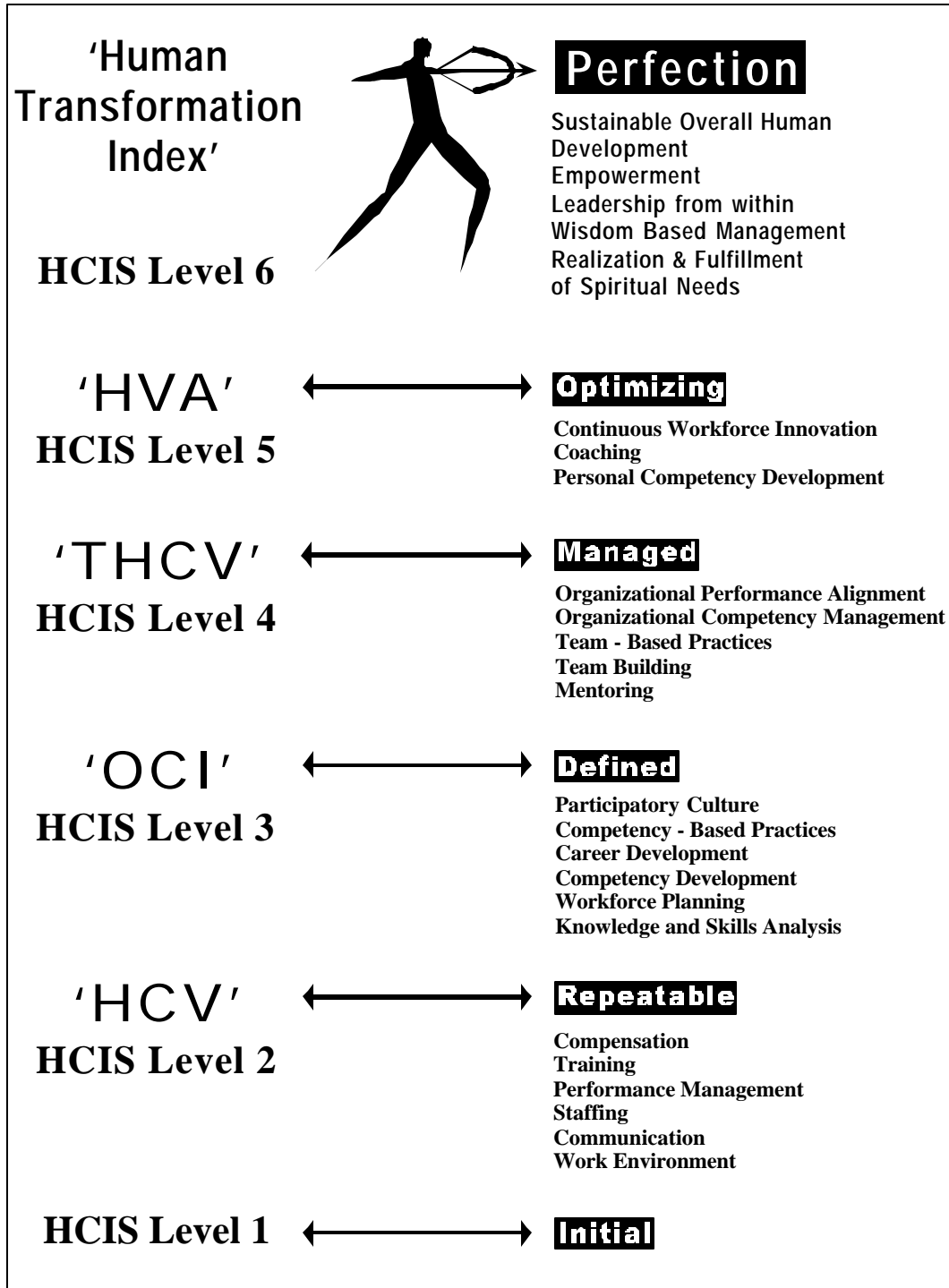


Figure 1.2: The Model for Human Transformation

As the stage of infancy is followed by growing up of the infant into a toddler who by relentless efforts, imitation of the grown ups, trial and error develops the capability to walk which then stays with him for the rest of his lifetime barring any acts of GOD, similarly the organization must now let go of the beginners luck and develop in themselves native capabilities by way of training and other such initiatives.

The third stage for an organization is quite similar to a child going to school where he is for the first time exposed to the outside world and learns participatory culture and develops knowledge and competency. There are structured paths that he must follow for his career development and be subject to roles that have been designed for cultivating the skill sets at the macro level. Analogically the organizations must now provide a simulated environment for a guided transformation of people to learners and allow them to break free of the corporate glass ceilings to unleash their potential. The overall organizational climate must at that stage be of growth, in the absence of which the growth of the organizations might be permanently stunted.

The fourth stage/Level 4 is quite similar to the real life where the child who has now matured into an adult has to work in a team keeping in mind the organizational objectives. Although the school from where he has developed his initial competency have enthused in him a sense of individuality as his most dominant trait, hence alignment and measurement become more important. The organizations who are not able to transform their people to work in teams fall in the category of the organizations who do not survive for longer periods. As per World Competitiveness Report not more than 51 per cent of the organization, survive for more than seven years.

The organizations that survive by managing these mismatches look for optimization (Stage 5/ Level 5) which is quite similar to the period of fastest growth for an individual (25 - 35 yrs of age). This requires continuous improvement and value addition by innovation. Hence the need to measure and understand HVA.

There are very few people who reach the highest level of Perfection and similarly there are very few organizations that have a track record of Centuries due to the imperfections. If we look at the Fortune 500 list it is highly volatile which in itself is a proof of imperfection in the parameters used in the selections for the list. This requires an in-depth analysis of parameters on which the classifications are made and the definition of success itself.

Should we rate that organization as number one which is earning a maximum Return On Investment (ROI), but the people working in the organization feel scared/dissatisfied.

Are all the stakeholders equally important ? Or is it the share holders whose concern should be the supreme goal of the organizations?

Should all activities be directed towards the ultimate aim of the liberation of mind, empowerment of the innerself and leadership from within?

If this is the goal of the organizations then human transformation that is sustainable is the only solution. At the macro level, we have to ensure that the policy thrust and orientation do not lead us to catastrophies like the vicious cycle, of short term growth strategies has to be broken somewhere – haven't we seen enough already with the Polythene Menace, Depletion of Ozone, Exhaustion of Fossil Fuels. This calls for a change of priorities for development and growth from Economic centric to Human centric. It is then only that we can sustain human transformation at the macro level and the global level.

Areas of Future Research

The development of the HCIS is complete and beta testing is on in a leading business organization for further improvement in the software package. The authors believe that given the ease of decisions support by HCIS, decision makers would start taking decisions based on more reliable and timely information about human beings to attain success. The growth and development of the organizations can be attained on a sustainable basis only if people are at the centre of all concerns.

The authors realize that research is a continuous process, the major research projects being undertaken are:

1. The development of detailed specifications of the Model for Human Transformation and the Human Transformation Index, that shall be step-by-step guidelines for the organizations that are making a conscious effort to develop their Human Capital to achieve Perfection. Once the development of these guidelines is complete and has been reviewed in the light of the first hand feedback received from the implementation sites of HCIS, SCG plans to introduce certification programs to help the organizations measure the level of success that they have achieved in their efforts and help them realize and identify the key areas vis-a-vis their human capital that require improvement on.
2. SCG shall also undertake a detailed study of the degree of correlation between the HVA and HTI of an organization and the amount of success that it achieves in all its growth and development initiatives. The study shall also aim to establish the relationship between the HVA of an organization and the economic parameters like the share price, and under take a comparative analysis of the same with EVA.

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