

Industry-Ready HRD: Need of the Hour

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Abstract

Developing industry-ready human resources is a big challenge for India in the prevailing socio-technical system. At the cross-roads of competitive business practices, Indian industries demand huge job openings; whereas the young Indian professionals have less or no jobs. This is the outcome of a mismatch between the demand and supply of human resources of HRD centers with respect to the industry. A sustainable business model for developing human resources to leverage employable people to the market is described in this paper. The purpose of the paper is to propagate design thinking amongst the practicing managers, professionals, academicians, researchers, students and society at large. The careful design of HRD process eliminates all types of mismatches, suitably capturing the voice of the industries, for a better 'fit for use' or quality. The paper is based on the concepts of 'product design and development'.

I. Introduction:

Indian economy even after the six decades of its independence faces unemployment as a major issue. This is probably due to highly competitive business environment that succumbs to huge job openings to meet the variety of requirements arising out of new adoptions and updations in business practices. But at the same time, young professionals of the economy have fewer or no jobs in hand. The reason can be attributed to a great mismatch of quality and quantity between the demand and supply of human resources. A sustainable model of product design and development, carefully designs the products, and do not suffer from the manufacturing and marketing hustles at its later stages of its lifecycle. This concept can be feasibly adopted in the present day complex HRD practices to leverage the market. A carefully designed HRD process can eliminate the mismatches by capturing the voice of the industries, and developing a better 'fit for use'. Advancements of technologies and professional course curricula alone do not suffice for a competitive advantage unless they are consistently and collaboratively exercised. Continuous improvement on this collaborative front of socio-technical dimensions can lead India towards global competitiveness.

Keywords

*Industry-ready,
Socio-technical system,
Business model,
Product design*

Enterprise competitiveness is based more and more on the quality of the human resource of the enterprise. Developing good human resources thus becomes an important cornerstone of an enterprise competitiveness strategy. As an integral part of this strategy, various HR policies and practices could contribute in creating human capital. The human resource development culture leads to creativity, productivity, value-sharing, multi-skilling, collaborative work culture, so on. Flexible enterprise, expensive supervision, standardization

and rule-based governance of work demands well-groomed human resources, who are committed, motivated, skilled for sustenance, tech-updated, at all levels.

II. Competitiveness:

Competitiveness is a relative ability and performance of a firm, sub-sector or country to sell and supply goods and/or services in a given market. Firm-level competitiveness is the drive of enterprises to maintain and improve their own status of business in the sectors. State and National Competitiveness has emerged as a new paradigm in economic development with the awareness of both the limitations and challenges posed by global competition, at a time when effective government action is constrained by its budget; and the private sector facing significant barriers to compete in domestic and international markets. The Global Competitiveness Report of the World Economic Forum defines competitiveness as “*the set of institutions, policies, and factors that determine the level of productivity of a country*”.

The institutional model applied in the National Competitiveness Programs (NCP) varies from country to country; however, there are some common features. NCPs should have strong, dynamic leadership from the private sector at all levels – national, local and firm. At the outset, the program must provide a clear diagnostic of the problems faced by the economy and a compelling vision that appeals to a broad set of actors who are willing to seek change and implement an outward-oriented growth strategy. Based on a bottom-up approach, programs that support the association among private business leadership, civil society organizations, public institutions and political leadership can better identify barriers to competitiveness; develop joint-decisions on strategic policies and investments; and yield better results in implementation. National competitiveness is said to be particularly important for small open economies, which rely on trade, and typically foreign direct investment, to provide the scale necessary for productivity increases to drive increases in living standards. International comparisons of national competitiveness are conducted by the World Economic Forum, in its Global Competitiveness Report, and the *Institute for Management Development*, in its World Competitiveness Yearbook.

Dimension of Competitiveness:

The Global Competitiveness Index provides a holistic overview of factors that are critical to productivity and competitiveness and group them under nine pillars:

1. Institutions (financial) – public and private
2. Infrastructure – transportations, public utilities, wired and non-wired communications
3. Macro economy – surplus/deficit, savings, inflation, interest, debt/GDP, exchange rate

4. Health and primary education – eradication of diseases, birth and death rate, life expectancy, primary education enrollment
5. Higher education and training – quality, and on-the-job training
6. Market efficiency – local and global markets, domestic and foreign competition, goods market, labor market, financial market.
7. Technology readiness –FDIs and tech-transfer, computer, internet, cell phone
8. Business sophistication – supplier network, operations strategy,
9. Innovation – Quality, R&D, collaboration, IP protection, Patents

India’s Global Competitiveness:

India improved its business environment (as per table below).

Table 01:

India’s performance on different factors of competitiveness

Sl.No.	Factors	Ranking
1.	Market efficiency	21
2.	Business sophistication category	25
3.	Innovation factor	26
4.	Institutions factor	34
5.	Efficiency enhancers	41
6.	Higher education and training	49
7.	Technological readiness	55
8.	Infrastructure category	60
9.	Macro-economy	88
10.	Health and primary education	93

Companies’ strategies for competing in an industry can differ in many ways. Following are the common strategic dimensions of firms to differentiate from one another in an industry:

Specialization:

The degree to which the firm focuses its efforts in terms of the width of its line, the target customer segments, and the geographic markets served.

Brand identity:

The degree to which, the firm seeks brand identification rather than competing on price or other variables. Brand identity is achieved by advertising, sales force, or other means.

Push versus pull:

The degree to which the firm seeks to develop brand identification with the ultimate consumer directly versus

the support of distribution channels in selling its product.

Channel selection:

The choice of distribution channels ranging from company-owned channels to specialty outlets to broad-line outlets.

Product quality:

The level of product quality, in terms of raw materials, specifications, adherence to tolerances, features, and so on.

Technological leadership:

The degree to which, the firm seeks technological leadership versus imitation. A firm could be a technological leader but deliberately not produce the highest quality product in the market; i.e. quality and technological leadership do not necessarily go together.

Vertical integration:

The extent of value addition reflected in the levels of forward and backward integration, including the firm's captive distribution, exclusive or owned retail outlets, in-house service network, etc.

Cost position:

The extent to which, the firm seeks the low-cost position in manufacturing and distribution through investments in cost-minimizing facilities and equipment.

Service:

The degree to which the firm provides ancillary services with its product line, such as engineering assistance, an in-house service network, credit, and so forth.

Price policy:

Price position will usually be related to such other variables as cost position and product quality, but price is a distinct strategic variable that must be treated separately.

Leverage:

The amount of financial leverage and operating leverage the firm possesses.

Relationship with parent company:

The firm could be a unit of a highly diversified conglomerate, one of a vertical chain of businesses, part of a cluster of related businesses in a general sector, or a subsidiary of a foreign company, and so on. The nature of the relationship with the parent will influence the objectives of the firm, the resources available to it, and perhaps determine some operations or functions shared with other units (with resulting cost implications).

Relationship to home and host government:

Home and host governments can provide resources or other assistance to the firm, conversely can regulate the firm, or influence its goals.

These strategic dimensions, being related, can be described for a firm at differing levels of detail, and other dimensions might be added to refine the analysis; the important thing is that these dimensions provide a good overall picture of the firm's position. The scope for strategic differences along a particular dimension clearly depends on the industry. An industry normally has firms with a number of different though internally consistent combinations of dimensions.

III. Socio-technical System (STS):

Socio-technical system approaches advocate a human-centric analysis that investigates the impact of the technical system on people and considers ways in which technology can be designed more effectively for people. To fully exploit technology in high tech industries, one also has to address the human and organizational workplace aspects. Technology can be copied, but the level of which it is exploited depends on the less replicable employee knowledge, participation and understanding, big picture considerations, communicative skill, motivation and cooperation (Lars, 2009). That is where therefore arises the need of a STS.

Socio-technical system theorists advocate the importance of joint-optimization in effective, organizational design. Joint-optimization, a word coined by Emery, has a very specific meaning here. It holds that the most effective arrangement within human organizations will be those that integrate the demands of both technical and social aspects of interactions. In this sense, socio-technical system design is aimed at the full utilization of both technical and human resources in workplace. In order to achieve this objective, the original focus was on the introduction of semi-autonomous work groups, which were capable of self-regulating in terms of technical and social requirements. These semi-autonomous work groups, precursors of today's self-directed work teams, were facilitated through a program of action research. Through this action research intervention, the quality of work life including job satisfaction, morale and productivity were significantly improved (Zhao, 1993).

The idea is to:

- Strengthen the discipline of "organization and workplace design" into high-tech industries development processes
- Build on existing proven methods to which some of the participants are familiar with
- Make organizational and social aspects more visible to technical personnel
- Merge two disciplines into one tool, to better see coherence
- Create the same type of picture for different aspects that influences the value creation process

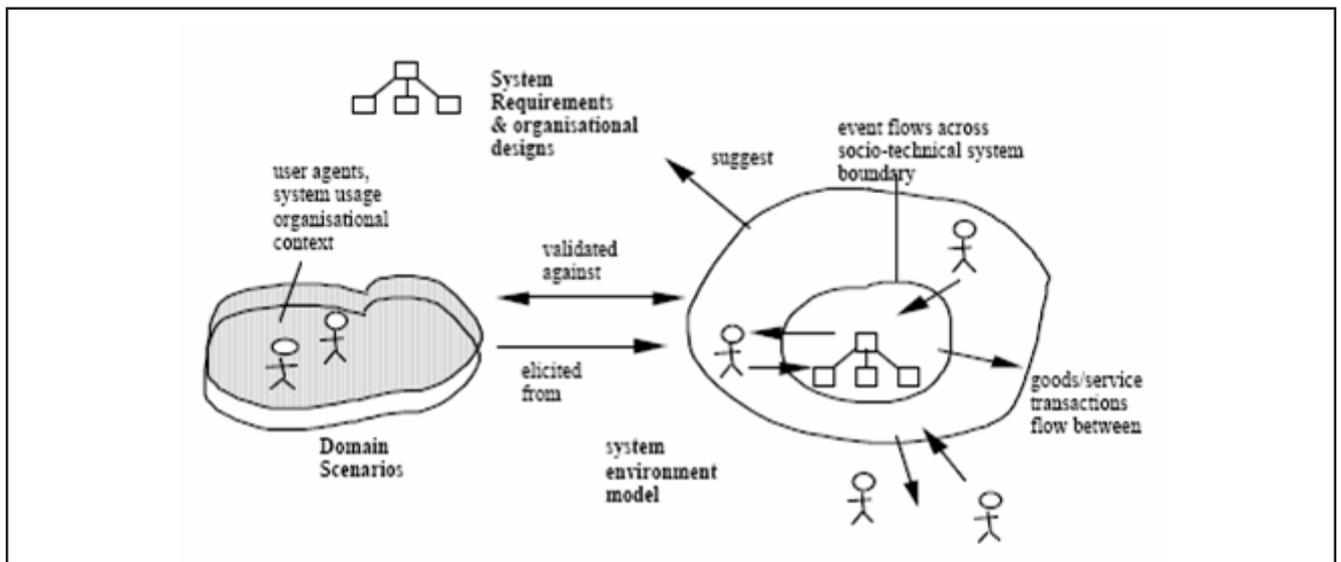


Figure 01: Socio-technical system in relation to HRD [Source: Fig.1, p.3, Alistair, 1999]

A socio-technical system defines the business organizational relationships, according to the coupling between agents determined by types of event flows between them, and secondly, by operationalizing transaction cost theory to obtain an a priori view of relationships according to the market context for a client and supplier (Alistair, 1999). Here the industry is the client and professional schools or training centers are the supplier. Coupling metrics are applied to assess the degree of dependencies between the system and the users. High-level requirements are suggested to deal with different types of organizational design.

IV. Socio-technical System as a Competitive Dimension for India:

As indicated in the Socio Economic Survey of India 2007–08, the combined GER (Gross Enrolment Ratio) – Primary, Secondary and Tertiary education is calculated by expressing the number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a % of the population of official school age for the three levels. Central Government Expenditure on Social Services and Rural Development launched in 2000-01 is a new initiative for basic rural needs.

Consumption pattern across different Monthly Per Capita Expenditures (MPCE) of population has a direct bearing on the per capita income and employment. NSSO's data on 2004-05 reveal that the spending of rural population on an average is about 55% on food and the remaining 45% on non-food items.

V. Role of Human Resources for enhancing Competitiveness:

Indian socio-economic environment comprise of people, very honest, hard working, and are eager to prosper. This in by and large, due to more young people getting advanced education, and training in high tech fields, which are highly valued today. HRD is all about - development and up gradation of human capital; process for developing human expertise through training and development; bringing qualitative changes in human capital, etc. As believed about the role of HRD, it

- Helps and facilitates the human resources
- Imparts learning at multiple levels as its core function
- Brings a desired change through learning process
- Evaluates the learning and performance effectiveness both
- Remains committed to the development of people towards organizational goals
- Develops and maintains a systems

Through all its functional roles, HRD activities simply ensure availability of right number of men , right kinds [types in terms of skill], at the right point of time, at the right places for utilizing the most economically and effectively and develop their potentials in terms of skills, performance and capacity. Selection of personnel for an organization refers to the process of offering job to "best-fit". Performance appraisal is a means of helping supervisors to evaluate the work of employees, helping the individual to develop his or her present role capabilities and to assume more. Counseling helps the employee to recognize his own strengths, weaknesses and potential and helping further to prepare action plans for self-development. Career planning involves identifying the right potential well in time to take over higher responsibilities. This includes promotion and planned job rotation under various conditions and environments of challenge. Training as an integral part of HRD process, improves the capabilities of the human resources on the job. Training is expected to indicate positive changes in knowledge, skill and attitudes. HR Department analyses and develops various training programs. Job analysis is about studying and collecting departmental information pertaining to operations and responsibilities of a specific job. Job description is an organized factual statement of duties and responsibilities of a specific job, whereas, job specification is a statement of the minimum acceptable qualities necessary to perform a job properly.

VI. Designing Effective HRD Programs:

Defining the objectives of HRD interventions, Creating HRD programs, Selecting the trainer, Preparing a program chart, Scheduling the HRD program etc. are the essential steps of designing an effective HRD program. Then it is exercised or implemented in terms of improved training delivery methods, on the job training method, classroom training approach, Self-Paced/computer-based training, right media, and evaluation.

VII. Developing Industry-Ready Human Resources

World class companies often outsource major functions rather than supporting in-house. So also they do not deploy and develop their human resources to the fullest extent. Hardly, there exists the motivation and scope for the required training and development facilities. Cost and burden of training is often found off-loaded without much involvement of the management into the process which later cause cost escalation in terms of retraining, low productivity, high attrition etc. Right job description should be passed on to the different tiers of HR supply chain i.e. in the form of career guidelines in the line of company's core competence. There arises a need of close collaboration, like vendor relation development programs. The HRD process can be executed by development team i.e. the host and partnering agencies, similar to the factory networks of lean operation, where the critical points of the value chain are integrated and within six-sigma control.

The development team needs to understand the recruiter's interest and the job qualifying criteria; identify

the skill sets required by the company, possessed by the candidates, offered by the education and training centers. Carefully designed, clearly reviewed-approved-agreed and closely supervised education and training programs need to be implemented. The content of the program should have an optimal blending of theory and practice duly reviewed by specialists of the domains or an expert committee. Typical industrial problems can be assigned to the identified groups of professional students or trainees, through guided case analysis and or project works so as to develop core competencies for industry-readiness. Leading business and engineering schools and professional institutes should take major initiatives by remain customer focused, meaning to impart value based learning and trainings right from the source.

The developers can have two ways of looking at the core technological competencies:

- 1) Generic and Specific
- 2) Local and Global

The real challenge lies on the part of developers to successfully identify the factors that are critical to quality. They may have to operate within two extremes like highly integrated to highly outsourced HRD functions. There it becomes the responsibility of the developers to indicate the economic impacts to all the partnering industries, institutes and agencies.

A Sustainable Model for Developing Industry-Ready Human Resources

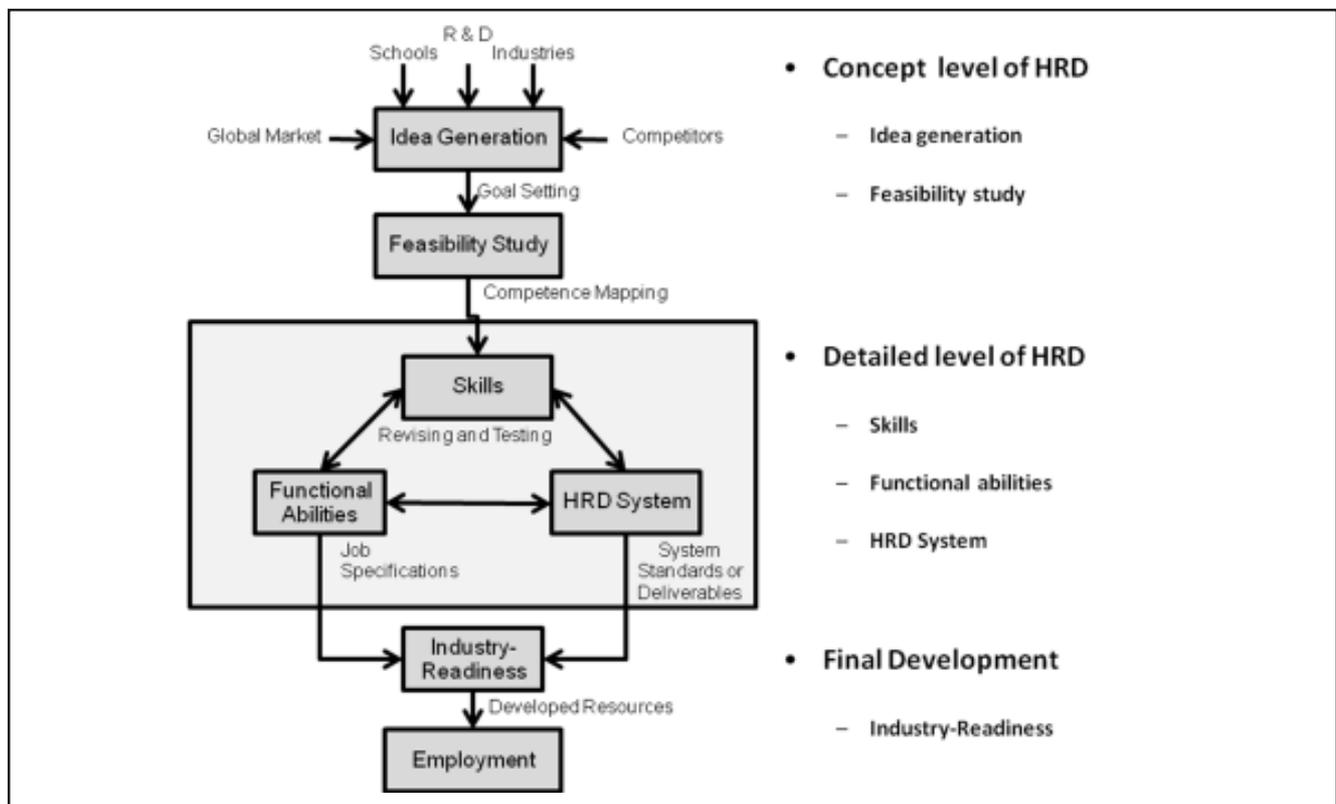


Figure 02: Generic process of human resource development

[Adapted from: Operations Management, Roberta S. Russell, and Bernard W. Taylor; Prentice Hall of India Pvt. Ltd. Ed. 4, 2007, Ch.3, The Design Process, Figure 3.1, p.78]

As per the above model, idea generation takes place first by receiving inputs from the global market demand; competitor's human resources; professional schools of education and training; R&D laboratories and centers; and industry. Then a mission is set and a feasible proposal of human resource development program comes up. In this phase the competence mapping is done within

a structured HRD system architecture to develop the predefined functional abilities and skills. This is a detailed level of developing human resources conforming to the job specifications of industry and the deliverable standards set by the HRD system. Final outcome of this system is the industry-ready people who get easy employment.

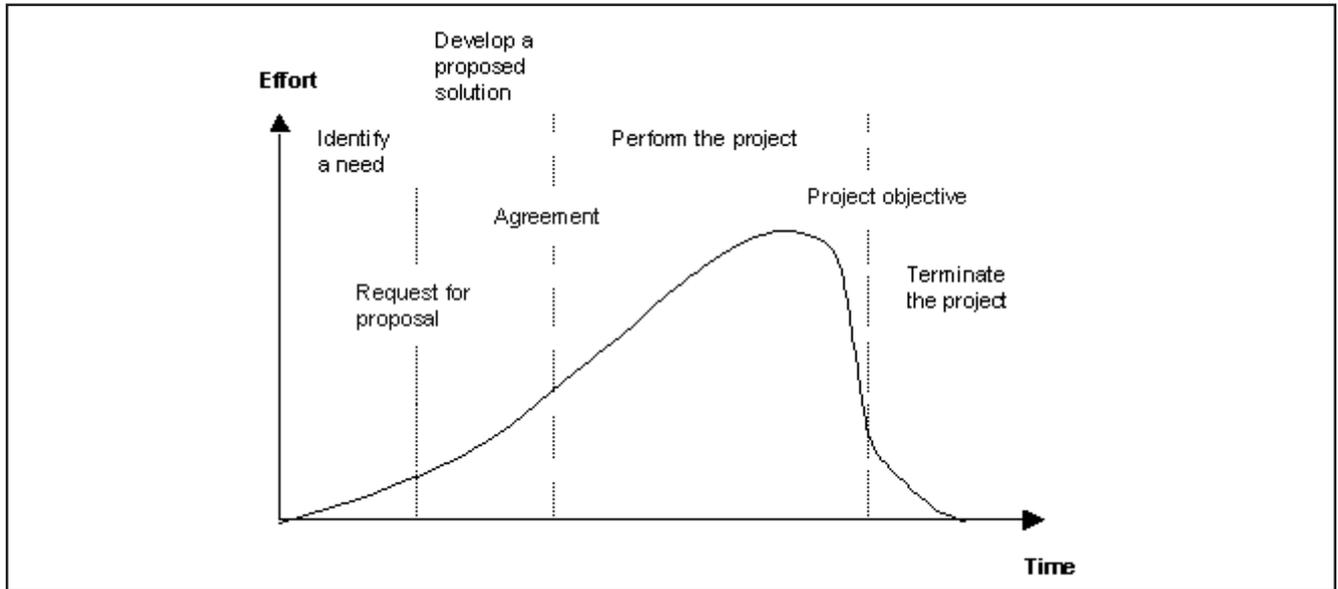


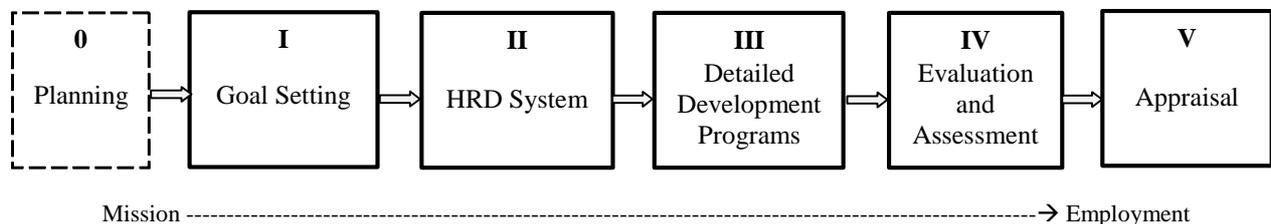
Figure 03: Human Resource Development Life Cycle

[Source: Panda (2010), "Value of Elders in the Human Lifecycle," *World Elders' Day Celebration*, PRACHESTHA, Koraput, Orissa, October 2010]

The project life cycle of human resource development can be seen as above. The lifecycle indicates the rigor of effort, as an unique project, put in to the HRD process. It starts with a proposal where the need of the industry is identified; then shows an agreement to develop or groom the selected resources; then executing the development program; then the program ends with accomplishment of its objectives by producing employable and deployable resources.

organizational context. Market-pull is stimulated from the industry end, often described by the technology associated, skill sets required, multiple roles, tasks and responsibilities at a job. On the other hand, the developers can also influence the client industries by providing certain technology-enabled human resources as technology-push; product and process experts as platform-based human resources; specially trained people as customized human resources; and similarly high-risk, quick-built, complex-system human resources.

The development process presented in Figure 03 is a generic model which can further be customized to unique



The six phases of human resource development process are:

0. Planning

The zeroth phase has a strategic initiative for industry and institute collaboration. Plans begin with technology and skill development for the client industries. The output comes in the form of a project mission statement of works which specifies the job description, skills, culture, reporting structure etc.

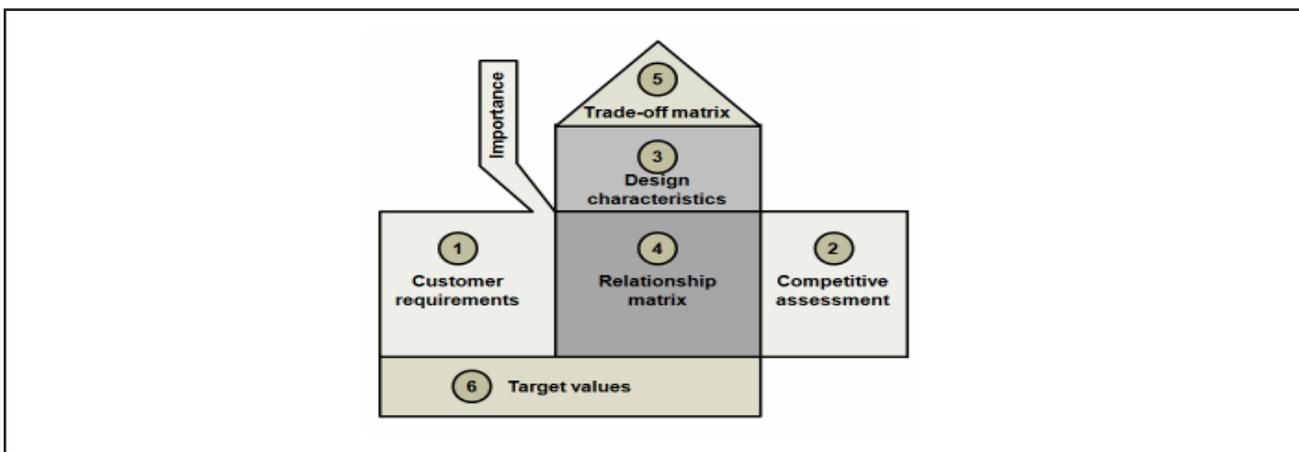
1. Goal Setting

This phase identifies the target industries, alternative resources are evaluated in terms of various skills and abilities, and competitive short-listing of human capital is projected.

2. *HRD System*
This phase includes the competency architecture for different performance levels and sub-levels defined by functional roles and skills.
3. *Detailed Development Programs*
This phase lays out the complete development program indicating standard sets of functional roles, assistance and responsibilities for different time and circumstance to come.
4. *Evaluation and Assessment*
This phase prepares a batch of people with certain degrees of readiness to work on some industrial assignments and sample projects. The industry experts ultimately give a satisfaction report.
5. *Appraisal*
The industry-ready human resources are appraised by the development program to ensure success at workplace which then happens on regular basis.

(Figure 04: Six Phases of Human Resource Development Process

[Adapted from: *Operations & Supply Management*, Chase; TMH Edu. Pvt. Ltd., 12 Ed., 2010, Ex. 4.1, Ch-4, p.111]



IX. Quality Function Deployment (QFD) in HRD:

This approach of developing human resources captures the voice of industry and translates them optimally through the development program using cross-functional teams. QFD process can list the qualities and characteristics of the human resources desired by an industry. Also it determines the importance or weight attached to them to develop a *house of quality* matrix. The matrix helps the team translate customer requirements into concrete execution of HRD programs. This helps in showing the comparative benefit of entering into the deal can be explained by evaluating the technical and functional qualities of the developed human resources.

Hotel, entertainment, healthcare and infrastructure industry facilities are reasonably good in India to attract FDIs and tourists. Airline technology has greatly increased tourism leading to an unprecedented level of interaction among individuals from different parts of the globe. Tourism with 5.83% of GDP and 8.27% of employment has drawn special attention. The estimated shortfall of tourist accommodation was tuned up to 1.5 lakh rooms in 2010. India's tourism sector has a potential to contribute towards the economy by generating revenue directly and employment in core as well as related industries. India's international tourist arrivals in 2005 were just less than 4 million, and their average stay was

over 20 days. India's domestic tourism increased from 67 million in 1991 to 366 million in 2004, which is growing rapidly.

X. Conclusion:

W. Edwards Deming says, "Quality is achieved by teamwork i.e. through employee participation in decision making; breaking down the barriers between departments". Similarly, quality in developing industry ready human resources is achievable with teamwork of industry, institute, and the society at large. Like the quality in physical goods production needs to lift the barriers between different departments, operate beyond the information silos, maintaining a better supply chain (i.e. through better supplier/vendor relation - process control - customer relation), our objective can be well achieved by a thorough handshake between these agencies.

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