Chapter 9

CONCLUSIONS

Chapter Objectives: This chapter aims at squeezing the essence of the whole work done in this thesis and to emphasize upon the need for considering the necessity of intangibles in raising the performance of an organization.

9.1 Outcome of the Study: For more than two decades, there have been arguments in favour of measuring and managing intangible resources. Several intangible factors contributing to performance enhancement have been identified and discussed. This study sums up the integrated effect of all these factors. It has been concluded that it can result into significant improvement in performance of an organization.

Ergonomically enabled environment. In the current work, an attempt has been made to highlight the significance of ergonomically enabled environment and its’ impact on organization’s performance with a view to create an awareness and submit recommendations for its adaptation for performance enhancement. Four Enablers of Ergonomic Environment were identified namely,

- Physical environment
- Human machine systems
- Procedures and policies and
- Psychological environment.

A model has been developed by the Integration of these enablers for Organizational performance enhancement. Physical environment has direct bearing on human comfort and thus by adoption of mechanization, automation, robotization and by the provision of comfortable and relaxed environment, health disorders like CTD, CTS, or other Repetitive strain injuries can be avoided largely. These injuries may cause an exchequer of several million dollars, which means direct capital loss to the organization. These health disorders may result into permanent organic damage and physical disability and impaired performance. The organic disorders may cause psychological problems and
generate inferiority complexes, sometimes due to social rejection of the physically impaired. Organizations tend to suffer doubly, if they compensate such employees or suffer from loss of reputation if they disown such staff, as are not worth anything.

**Utilization of the principles of Information and knowledge management.**

Competitive advantage goes not to those firms who have the best knowledge, but to those who use knowledge the best. The three important identified characteristics of technological knowledge include Complexity, Tacitness and Specificity.”

The complexity of technological knowledge will be positively related to the persistence of a firm’s product performance advantage and should slow down performance replication by making reverse engineering more difficult.

The specificity and tacitness of technological knowledge will be positively related to the persistence of a firm’s product performance advantages.

Information Security is usually outlined as the “preservation of confidentiality, integrity and availability of information” while “other properties such as authenticity, accountability, non-repudiation and reliability can also be involved”. Knowledge management and Information security management are rated highly important by organizations. A model has been developed for utilization of “Selective dissemination of information” for added competitive advantage for the organization.

- A model has been developed for getting competitive advantage by the use of selective dissemination of information.
- A relationship between the following:
  (a) Information flow
  (b) Capturing organizational learning
  (c) Leveraging knowledge, has been established for sustained business value to enhance organizational performance.
- Sahai-Grover (ICESIA) model for knowledge creation has been developed that leads to higher performance levels as knowledge is key and dominant.

**Utilization of services of the value added employees.** Thinking in terms of productivity measures to assess the worth of employees or judging the worth of the employees by productivity measurement or measure of “Return on Investment” may not be appropriate
or enough, as these are influenced by systems, technology, procedures and other factors beyond employee’s control. A mathematical model has been developed using “Graph theoretic approach. In this model five intangible attributes of employees namely

- Self-efficacy
- Competence
- Commitment
- Cohesiveness
- Creativity

are selected depending on the job requirements, and are called core values. A digraph of core values has been developed indicating the interrelationship between the various attributes of the employees. These are mathematized on suitable scales representing interdependencies and inheritance, used by Grover et al. (2006). These core values are represented by core value matrix. Permanent function represents by single numerical index the employee’s worth with objectivity. In order to avoid the complexities of digraph, a matrix has been evolved called “Sahai-Grover Core Value Matrix” (SGCVM). A procedure for calculating a “numerical index” has been developed for expressing the employee’s worth by a single numerical index. The index so found has been designated as ‘Sahai-Grover Employee Worth Index’, (SGEWI) obtained by solving SGCVM, for quantifying the employee’s worth. Higher the values of SGEWI, higher will be the worth of the employee. This technique can be utilized for comparison or grading of the employees or the sensitivity analysis in a more rational way and eliminates the element of subjectivity.

Creating High Reliability Organization. Inconsistency in service or performance means the starting of failure. Inconsistency can be detected by performing ‘Gap analyses’. Variability in a process or system or a component’s performance is not desirable and must be brought down for performance upgradation. Variability tends to increase ‘risk taking behaviour’and makes the organization unreliable. A Mathematical model has been developed for creating High Reliability Organization (HRO) for improved performance using graph theoretic approach. A “High Reliability Organization Performance Index” (HROPI) has been calculated. Identified factors for model are:
• Employee and employee reliability development
• Organizational Development
• Adoption of principles of Reliability engineering, and
• System reliability development’- is one stage
Development of safety culture & organization’s cultural development to create high potential employees -stage two
Creation of high reliability organizations (HROs) means creation of as high performance organizations- stage three.
The index so found has been named as “Sahai-Grover High Reliability Organization Performance Index” (SGHROPI).
SGHROPI can be used for comparison, grading or sensitivity analysis of organizations.

Using organization’s Intellectual capital for performance enhancement. Knowledge is the key and the dominant. The effort to measure, use, and develop intellectual capital holds promise in increasing productivity. The four models namely

• Balanced Score Card (BSC) of Kaplan and Norton (Source: Robert Kaplan and David Norton, 1992)
• Ramboll’s holistic company model (Source: Ramboll)
• Skandia Navigator [source: Edvinsson L and Malone M S (1997)]
• Performance Prism. (Source: Cranfield School of Management in collaboration with consultancy Accenture: Website: www.cranfield.ac.uk/som/cbp)

were studied. An attempt has been made to express the Intellectual Capital Worth of an organization by a single numerical Index to eliminate the element of subjectivity and introduce objectivity in evaluation of Intellectual Capital Worth of an organization. It was felt that there is scope for further research and development of mathematical model by using graph theoretic approach. Accordingly, Intellectual capital’s three components

• Human capital
• Structural capital and
• Relational capital, along with their sub components have been identified and quantified for mathematical modeling using ‘graph theory’. Method has been
evolved to express this Intellectual Capital worth Index of an organization quantitatively by a single numerical index. Scales used by Grover et.al, (2006), table 5.1 & 5.2 to express the Intellectual Capital Value numerically have been selected.

This index so calculated has been designated as "Sahai-Grover Intellectual Capital Value Index (SGICVI)".

**Depending more on intangible resources.** Provision and integration of all such intangible factors, resources and conditions can change the organization performance for recorded improvement.

- For attainment of higher performance level four different models have been developed:
  
  (a) Relationship capital model.
  
  (b) Innovation capital model.
  
  (c) Model of organizational capital
  
  (d) Model of process capital.
  
  (e) A factor has been found and named it as “Intangible Return on Investment Factor” (IROIF).
  
  (f) It gives the numeric concept of the percentage of gains as a result of the attainment of the higher value of “Intangible Return on Investment Factor”.
  
  (g) If this factor is calculated on the basis of tangible returns on investments then it will be called, “Tangible Return on Investment Factor” (TROIF), and if calculated on intangible ROI then it will be called “Intangible Return on Investment Factor, (IROIF).
  
  (h) Net ROIF = Tangible ROIF + Intangible ROIF
  
This factor has been found and named it as “Sahai-Grover Intangible Return on Investment Factor” (SGIROIF). It gives the numeric concept of the percentage of gains as a result of the attainment of the higher value of “Intangible Return on Investment Factor”.
Similarly, if this factor is calculated on the basis of tangible returns on investments then it will be called, “Sahai-Grover Tangible Return on Investment Factor” (SGTROIF).

It is also felt that “Quantification of the Intangibles eliminates the element of subjectivity and introduces objectivity in assessment or evaluation”.

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