CHAPTER-VIII
CONCLUSIONS AND POLICY IMPLICATIONS

Intellectual capital is the currency of the future and is an organization’s most important asset. Those who learn how to manage it effectively will realize accelerated performance and achieve the ultimate competitive advantage. Intellectual capital is a package of useful knowledge which includes organization processes, technological patents, employees, skills and information about customer suppliers and stake holders. Intellectual capital deals with particular, reasonable, knowledgeable and substantial fruits of the mind. It comprises of three basic components: human capital, structural capital and customer capital. Human capital includes experience, know how, capabilities, skills and expertise of the human members of the organization. Structural capital is the supportive infrastructure that enables human capital to function and includes the systems, networks, policies, culture, distribution channels. Customer capital, also known as relationship capital, is the strength and loyalty of customer relations and includes customer satisfaction, repeat business, financial well being and price sensitivity, market share and so on.

Intellectual capital has contributed to the creation of whole new types of business and ways of doing business. Intellectual capital is positively and significantly associated with organizational performance. Intellectual capital assets are strategically now more important to wealth creation than they ever were in the past. Therefore Importance of intellectual capital in today’s economy indicates a need for high performance systems to manage them. Banking is a core sector of Indian economy. The current study analyzes the role of intellectual capital in performance of Indian banking.

Review of Literature

The research and published literature on measuring and reporting intellectual capital (IC) is growing rapidly. Research into the general topic of IC began in the 1990s and was mainly concerned with raising awareness about the existence and value of intangible assets within organizations and about
developing classification models for IC (Bontis, 1998; 1999; Malhotra, 2000; Gray, 2001; Pomeada, 2002; Tsan, 2003; and Kok, 2007). In the initial works, the studies mainly focused on the definition, concept of the IC, intellectual assets and formulated the concept of the knowledge-based organization (Bontis, 1998; Luthy, 2000 and Bontis et.al, 2000). Some studies specifically focused on the measurement of IC, which is concerned with the creation of frameworks, indices and guidelines to support the initial concepts (Ariely, 2003; Marr et.al, 2003; Seleim et.al, 2004; Montequin et.al, 2006; and Mouritsen, 2009). Some studies have explored the relationship between intellectual capital and the economic performance of firms/industries (Firer et.al, 2003; Mavridis, 2004; Moslehi et.al, 2006; Cabrita et.al, 2006; Lybaert et.al, 2006,Kamath, 2007 and 2010; Mondal and ghosh, 2012; Rehman et.al, 2012; and Haq et.al, 2014). But, there are very few studies which connect the intellectual capital with performance in the Indian banking sector. So there is a need to fill this research gap in literature. The present study is an attempt in this direction and tries to fill this research gap by investigating the relationship between intellectual capital and performance in the Indian banking sector.

**Objectives of the Study**

It is broadly hypothesized that since there is no dearth of capital, technology and labour; thus a major part of performance of a bank is determined by intellectual capital. In this context, the broad objectives of the proposed work are:

a) Review the theory and empirics on intellectual capital and performance evaluation;

b) Analyze the structure and structural change in the Indian banking with special reference to intellectual capital and performance;

c) To investigate the three elements of intellectual capital: the human capital, the structural capital and the customer capital and their inter-relationships within banking sector;

d) To examine relationships between intellectual capital components and performance of banking sector; and

e) To prescribe the policy framework for better function of the system.
Data and Methodology

The study is based on both primary and secondary data. The time-series data covers the period from 1990-91 to 2012-13. The time period has been deliberately selected because liberalization, privatization and globalization policy has been introduced only during this time period and many private sector banks have got their licenses from RBI only during this period. The secondary data and information have been collected from the publications of ‘Indian Banks Association’ like Special Issues, annual publications on ‘Performance Highlights of Private Banks’, and ‘Public Banks and Foreign Banks’. Apart from this, the data have been obtained from the publications of the Reserve Bank of India: ‘Report on Trend and Progress of Banking in India’, ‘Annual Reports’ of respective banks and other valuable publications of public sector banks, private and foreign banks. Various database websites have also been used for the data mining. For the present research work, various journals, magazines and newspapers like ‘Indian Journal of Commerce’, ‘The Journal of Intellectual Capital’, ‘Economic and Political Weekly’, and ‘Financial Express’ have also been considered. Structural change in banking has been analyzed using the tabular technique of analysis along with growth rates. Value added intellectual coefficient measures the intellectual capability and its relationship with performance of the organization has been analyzed using the correlation and regression.

Main Conclusion of the Study

Keeping in view the objectives and using the methodology outlined above, following are the main conclusions of analysis

a) **Broad Structure** of the banking industry in India is indicative of the fact that it is very big and versatile sector of the economy. The public sector banks have a large network of branches as compared to other bank groups. The public sector banks continue to play a very prominent role in both deposit mobilization and credit disbursal even after the implementation of reforms, since 1991-92. Public sector banks contribute about three fourth of the total deposits mobilized and total credit advanced, by all scheduled
commercial banks. Privatization has generated a healthy competition. The capital base of the industry has broadened and deepened. On the supply side, there has been spectacular surge in credit expansion of banks during the last few years. Total investment and asset base has increased manifold. The banking industry, the lifeline of Indian economy, is a very dynamic and growing sector of economy.

b) The emerging banking structure is characterized by higher doses of intellectual capital input. The number of managers in comparison to clerks is continuously on the rise. Two facts emerge from the analysis. First, the officers’ percentage, in the total employees, has increased by nearly two times during the period 1990-91 to 2012-13. Secondly, in private and foreign banks the proportion of officers in the total establishment has been quite higher since beginning. During the new policy regime almost all the banks, including public sector banks, are restructuring their establishment by reducing the number of clerks through usage of information and communication technology. The organizational model presented by foreign banks, was first replicated by private banks, is now being followed by public sector banks to compete.

c) Analysis of business performance per employee at aggregate banking level has increased by nearly thirty three times during the period of study. This has been firstly, due to liberalization, technological explosion and computer revolution, and secondly, due to the rate of growth in the number of employees in these banks fell in the era of financial reforms. Banking group-wise analysis shows that the public sector banks and old private sector banks, loaded with highly paid staff are struggling to improve the business per employee. Almost all the banking industry in India is moving toward improving the business per employee by downsizing the manpower, improving its utilization and lengthening the working hours. Competition given by foreign and new private banks has generated a compulsion for public sector and old private banks to rethink and improve their age-old style of functioning.
d) **Income per employee** has increased by about twenty six times during the period under analysis. In the beginning of reforms process, there were wide differentials, in income per employee, among various banking groups. But over a period of time the process of convergence is taking place; almost all the banks are approaching to a same level of efficiency. Foreign banks and the new private banks, by their fully private organizational setup were able to reap the benefits of reforms in the 1990s but the public and old private bank, due to their organizational rigidities were able to follow the suite in the decade of 2000s.

e) **Cost of intellectual capital** is best represented by ratio, ‘expenditure per employee’. Expenditure of a bank includes sum of interest expended and operating expenses. This ratio is taken into consideration for the purpose of evaluation of cost of efficiency of each bank group at the employee level. Growth analysis is indicative of the fact that in Indian banking industry, the expenditure per employee has grown at the rate of 14.90 percent per annum during the total period. In public and private sector banks, it has been slightly higher than the national benchmark and in foreign and new private banks it has been very small. Here also the process of convergence is in progress.

f) **Establishment expenditure per employee** is calculated at by dividing the total establishment expenditure with number of employees. Establishment expenses of a bank relate to expenditure on salaries and other allowances paid to the staff. This ratio is taken into consideration for the purpose of evaluation of cost of efficiency of each bank group at the employee level. Analysis highlights that the establishment expenditure per employee of Indian commercial banks has become almost eight fold during the period under consideration. Establishment cost in foreign banks is three times of what it is in Indian public and private sector banks. It is explained by the fact that organizational structure of foreign banks is leaded with managers as compared to clerks.
g) **Number of employees per branch** is the highest in foreign sector banks, i.e., 77 and 18 in new private banks. In case of foreign banks, the employees per branch ratio has always been more than the total employee per branch at the aggregate level as the foreign banks tend to be located mainly in metro cities with only big branches. The reason for decreasing temporal trend is due to the fact that banks are expanding by opening more small branches with fewer employees as to reach out to the last person to make the system more inclusive. Information technology is also a contributing factor to this decreasing ratio.

h) **Performance** has been measured by using two measures first based on output and second on total business. Output based index of performance shows that as compared to year, 1990-91 the performance of total banking industry has become 43 times in 2012-13 and in terms of growth, it is 16.87 percent per annum. In the decade of 1990s this growth rate was 15.02 percent per annum and in the decade of 2000’s, it has been 17.01 percent per annum. Throughout the period under consideration the performance of foreign banks and new private banks has been higher than the industry benchmark. The performance of nationalized banks has been at par with industry average. The performance of SBI group and private banks has been little less than the industry bench-mark. Total business based performance index shows the similar behaviour pattern.

i) **Human capital composition index** is based on officers’ percentage of the total employees. Intellectual capital composition index presents that as compared to 1990-91 the index for total banking industry has become more than two times in 2012-13 and in terms of growth it is 3.66 percent per annum. The index has grown at the rate of 1.35 percent per annum during 1990s and in the decade of 2000’s, it has been 5.71 percent per annum. All over the period, under consideration, the performance of foreign banks, new private banks have been higher than the industry benchmark. The intellectual capital composition index of nationalized banks and private banks has been at par with industry average. The performance of SBI group
has been slightly less than the industry benchmark. Same is the behaviour pattern of another index, the *size of organization index*.

j) The *human capital index* arrived is based on some discrete variables readily available from the annual financial statements of the banks. This index lacks disaggregation; it does not provide information about the structural capital and relationship capital components of intellectual capital. Although, based on some very restrictive assumptions, it still gives a first approximation to measurement of intellectual capital. Analysis of correlation is indicative of the fact that there is a perfect positive correlation between human capital and performance in banking in India; it holds true at aggregate as well as disaggregate level.

k) *Macro level aggregated intellectual capital index* based on value added intellectual coefficient (VAIC) has been generated on the basis of secondary data. At aggregate level the correlation coefficient between VAIC and performance is 0.7154 which is statistically significant at 1 percent level of significance. The intellectual capital and performance relation shows a differential behavior with type of ownership or the structure of banking groups. To translate intellectual capital into a higher output or a larger business, a set of other conditions is required that includes organizational, managerial, structural and age profile related variables of a group. This is the fact that needs to explore the relationship of IC and performance at a more disaggregates level, fortified with a wider database.

l) *Micro level disaggregated intellectual capital index* and its component indices have been generated on the basis of limited primary survey. Performance at aggregate banking level is a positive function of intellectual capital and its components; the customer capital and structural capital. Performance is positively correlated with human capital but human capital is a statistically insignificant determinant of performance. For public sector banks, human capital is a poor predictor and customer capital and structural capital are statistically significant predictors of performance. For private
sector banks, the human capital has become more important and the customer capital has become insignificant determinant of performance but structural capital still holds the key to performance. So the thesis that emerges from the analysis is that in banking, in general, the performance is a determined by intellectual capital but at disaggregate level, the intellectual capital components behave in a differential way.

Overall thesis that emerges from the study is that in Indian banking industry, the performance is a positive function of intellectual capital. Out of intellectual capital the structural capital and customer capital are statistically significant predictors of performance and human capital is the insignificant one. Further, with regard to cost, output and income related efficiency metrics, traditionally the foreign and new private banks were at a higher pedestal but now the process of convergence is in progress and almost all the banking groups are approaching to the national benchmark with passage of time.

**Policy Implications**

The relationship of intellectual capital and performance of Indian banking has been analyzed using the methodology outlined above. Following policy implications or suggestions emerge from the analysis:

a) In banking industry, each addition in intellectual capital has a multiplier effect on performance. Intellectual capital, the significant predictor of performance, needs to be strengthened by improving its underlying constituents.

b) First component of intellectual capital is human capital which includes: experience, know how, capabilities, skills and expertise of the human members of the organization. In the Indian banking, micro-economic analysis shows that it appears to be a weak predictor of performance. Hence the human capital in banking in India is not compatible with the emerging structure and dynamics. This requires, thorough retraining of existing staff, both clerical and officers and thorough restructuring of recruitment systems.
c) Structural capital is one of the key predictors of performance in banking. It is the supportive infrastructure that enables human capital to function and includes the systems, software, networks, procedures, policies, culture, distribution channels. A little investment in structural capital has a multiplier effect on performance. Hence the banks should continuously strive to improve the elements of structural capital.

d) Performance of the banking system is determined significantly by customer relations. This aspect of intellectual capital is called customer capital or relationship capital. Customer capital is the strength and loyalty of customer relations and includes customer satisfaction, repeat business, financial well being and price sensitivity, market share and so on. A separate wing on customer relationship management should be the in the banks to continuously improve the relationship capital. In this regard, the new processes and products need customer awareness and training. The new products must be user friendly having the facture of minimal training and effective security against error or frauds.

e) It is not merely spending more on intellectual capital that translates it into higher profitability but more important is that how banks manage intellectual capital and integrate it with business functions to achieve higher profitability. Strong management and good governance of latest information technology applications is a need of the time.

f) Intellectual capital, routed through innovations, finally translates in to higher performance. With investment in innovative processes and products, new skills have to be acquired by the employees. It involves not just learning the use of new technology by the operative level personnel. Even the managerial staff also needs training in management of technology because modernization of work technology without ensuring reasonable command and control system can lead to loss of managerial effectiveness.

g) Intellectual capital cannot be enhanced just by improving the infrastructure. It cannot be done by just the process of buying the
computers and software that gives higher performance, rather the
competitive advantage from introduction of technology stems from the
organizational dynamic capabilities which are defined in terms of timely
responsiveness, rapid and flexible product innovation and management
capabilities to effectively coordinate internal and external competencies.

h) To translate the investment inputs into higher performance, banks need to
go beyond the traditional human resources jargon. Banks should evolve
appropriate policies to make the best use of their primary asset, i.e., human
resources. Present day organization needs intellectual capital that is a
function of human capital, structural capital and relationship capital.
Adopting efficient and productive methodologies that will foster
innovations is need of the time.

The above conclusions and policy implications are indicative of the
fact that performance is a positive function of intellectual capital. In service
sector, to translate intellectual capital in to higher performance, a package of
other factors and conditions is required. Our finding are exploratory in nature,
there is a need to do a larger exercise, fortified with a bigger data base.

Main Limitations of the Study

The study has been undertaken objectively and every effort has been
made to make the study effective, strong and up to the mark. Also efforts have
been made to remain in the four walls of the objectives framed for the study so
as to avoid irrelevant discussion and to concentrate on the nucleus of the
subject matter of the study. Brevity thus has been given the importance.
However, the study suffers from following general and specific limitations: (a)
the study carries all the limitations inherent with the primary and secondary
data and information; (b) there was non-availability of some requisite data;
and (c) there is non-inclusion of some qualitative aspect in banking sector
which could have a bearing on the performance of banking activities.