Valuing Intellectual Capital: Need of the Era
(An Exploratory Study of Valuation of Intellectual Capital in Service Sector Companies in India)

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Abstract: This paper is an empirical study that explores the need to carry intellectual capital measurement and related impact on business performance in the Indian context. The success of a service sector organization is linked to the leader's, human capital, knowledge, skills of employees, innovation and creativity, know-how, copyright, patents, production processes, information technology, as well as customer relations of the organization. This study is an interaction with 36 industry leaders from Indian service sector companies to explore the awareness, actual scenario regarding measurement of intellectual capital apropos business performance. Through this empirical study and interviews of 36top executives reiterate the importance of measurement of intellectual capital and its influence on company valuation and business performance in dynamic business environment. The results of this study should help both academics and the industry to understand the importance of intellectual capital measurement. Thus, valuation of intellectual capital is need of current era.

Keywords: Intellectual Capital, Human Capital, Business Performance

Purpose of the Study

After liberalization, privatization and globalization (post-1991), Indian economy changed from agriculture and Industrial economy to service sector economy aided by advancement in technology. The fundamental difference is in the very nature of their assets which these industries require. In the former economy, the physical assets like machinery, plant, material etc. were of utmost importance; and in the service sector economy, knowledge and employees have greater significance. For example, in the case of a consultancy firm, the value of physical assets is negligible as compared with the value of the copyrights, patent, knowledge and skills of its human resource. In IT firm, hospitals, academic institutions we observe the same. The financial net-worth of the organization rests mainly on the employee skills and the services they render. Thus, success of these organizations is subject to the quality of their knowledge, human resource, competence, motivation and organizational culture.

The services sector is an important part of the Indian economy. India's services sector accounts nearly to 57% of the gross domestic product (GDP). Service sector has emerged as one of the largest and fastest-growing sectors not just in the country but in the global scenario; its contribution towards global GDP and employment has been substantial. This sector comprises of trading, transportation, communication, financial, business services and personal services, technology companies (IT and ITeS), telecom and back-office management. Every year service sector generates direct employment of 2 million jobs and indirect job creation is estimated at 10

million. Its share of total Indian exports (merchandise plus services) is 30% now. Rising incomes are creating powerful demand for financial services and product innovation is leading to healthy growth in risk, insurance and NBFCs. Recently, several major service sector companies have been in the process of corporate restructuring for value creation. Conventionally, enterprise valuation models are asset-based, earnings-based, or a mixture of both. Assets-based valuation models are based on fixed assets and/or tangible assets as a foundation of value creation, while earnings-based valuation models focus on profitability, earnings and growth. For service sector companies, human capital (intangible assets) is expected to play the most significant role in creating value of company than tangible assets. In knowledge-driven economies, thus, human capital should be recognized as an essential part of the net-worth of an organization. It is necessary that, appropriate method of gauging the worth of the knowledge, skills organizational processes, training and development which support these human resources to perform better, should be developed. In such state of affairs, there is a requirement for new methods towards valuation of intellectual capital in service sector companies in India.

Literature Review

Definitions

1. Definition of 'Valuation': Valuation is the process of determining the current worth of an asset, or company. (Many techniques are used to determine value including subjective and objective methods).

2. Intellectual Capital:

   - Edvinsson and Malone (1997, p. 358) broadened the definition of IC to 'knowledge that can be converted into value'.

   - Stewart *et al.* (1997) led to classification of intellectual capital components, namely human capital (HC) and structural capital (SC).

     HC is defined as the knowledge, qualifications and skills of employees and the fact that companies cannot own or prevent those employees from going home at night (examples are innovation capacity, creativity, know-how and previous experience, team work capacity, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education).

     SC refers to the knowledge that remains with the company after the employees go home at after work. It includes copyrights, patents, production processes, information technology, customer relations, R&D, etc.

3. Organization for Economic and Cooperation in 1999, defined 'Intellectual Capital' as the economic value of two categories of intangible assets of a company, namely, structural and human capital.

When valuing a company, analysts draw on evidence from current financial statements of the firm. They use this information to understand how profitable a firm's investments are, or have been in past; how much funds are reinvested and generated for future growth. They study recent history of the firm from earnings and market prices point of view. The firm's rivals are benchmarked to measure how much good or bad this firm is in comparison to its competition. In such a scenario, human capital becomes the vital asset of the service sector company. The present valuation models mostly cover financial aspects and rarely do they include structures like human resources, customer relations and its expertise. Intellectual capital is emerging in India where as in developed countries it has already been accepted. The growing importance of India as emerging global economy makes it not only vital to study developing areas like intellectual capital and addition of it in valuation of service sector companies, but also significant addition to existing body of knowledge.

1. Modigliani and Miller (1958) deliberated the impact of leverage on firm net-worth. According to their analysis, capital structure had no influence on the value of the firm in the absence of taxes; in the existence of a tax structure, they state that the value of the firm is enhanced by the present value of tax shields.

2. Myers (1974) suggested the adjusted present value (APV) model. He recommended that the present value of tax shields could be computed by discounting the tax savings at the cost of debt (kd).

3. Harris and Pringle (1985) projected that the value of tax shields should be considered by discounting the tax savings, affirming that the interest tax shields have similar systematic risk as the firm's underlying cash flows. Copeland *et al.* (2000) also advocated the APV model.

4. A leverage cost was presented into the valuation (Fernandez, 2002). He argued that there were four basic approaches for valuing companies using discounted cash flows: (a) using the free cash flow and the weighted average cost of capital; (b) using the expected equity cash flow and the required return to equity (ke); (c)using the capital cash flow and weighted average cost of capital before tax; (d) and using the adjusted present value.

5. Relative valuation models express the value of a firm in terms of the market value of similar firms. The simplest method for relative valuation practices valuation multiples: for instance, the P/E ratio, or the P/BV ratio. The usage of valuation multiples can enlarge errors in valuation, and are totally inappropriate if earnings are red or negative. Liu *et al.* (2002) provided the foundations for this method. The development of segment or industry-specific valuation models also has a great literature, almost as wide as that of valuation modeling itself. Industry-specific representations help in identifying key value drivers aimed at the industry, and are of great use in guiding strategic formulation in the industry (Damodaran, 2002).

6. Hand (2003) examined equity valuation for online firms, based on net incomes (profits and losses). He suggested that the negative pricing of losses is not due to poor operating performance, but instead reflect massive fund utilization in intangible assets that accounting rules require to be expensed rather than be treated as assets and amortized over time.

7. Jenning *et al.* (2001) stated that goodwill amortization only adds errors to the stock valuation trendsand significantly affects the value of intangible assets. The role of intangibles in firm valuation must be an area of further investigation in the context of specific industry and segment. Resource-based view of the company, including both tangible and intangible assets, is getting more acceptances, in the economic, accounting and strategic management and gives emphasis on linkages between firm resources and performance measurement.

8. Bornemann *et al.et al.* (1999) argued that intellectual capital can be calculated by the cumulative value of three categories:human capital (knowledge, skills), customer capital (supplier and customer relations) and structural capital (databases and organizational structure).

9. The method Pulic (2000a,b) proposed aims to provide information about the value creation efficiency of both tangible (capital employed) and intangible (human and structural capital) assets of an organization. This method is named VAIC and is distinguishable because it indirectly measures IC via the measurement of capital employed efficiency (VACA), human capital efficiency (VAHU) and structural capital efficiency (STVA). The higher the VAIC, the better the utilization of the value creation potential of a firm.

10. Damodaran (2002) stated three basic approaches in valuation modeling:

   • Discounted cash flow (DCF) valuation models,

   • Relative valuation models, and

   • Contingent valuation models.

DCF valuation models compare the value of a firm to the present value of expected future cash flows to the firm. While this approach is theoretically appealing, there have been several variations in the literature concerning the appropriate cash flows to be used, the treatment of tax shields, and the appropriate discount rate.

1. The higher gap observed between market value and book value of many companies has attracted investigation of the value missing from financial statements. According to various researchers, IC is the hidden value that missed in financial statements and then that leads organizations to gain a competitive advantage (Chen *et al.*, 2005; Lev and Radhakrishnan, 2003; Yang and Lin, 2009). Additionally, it is also believed that the

restrictions of financial statements in exactly explaining firm value reveal the fact that the foundation of economic value is the creation of intellectual capital and no longer the manufacturing of materials and goods (Chen *et al.*, 2005).

2. Chen *et al.* (2005) presented that investors in Taiwan receive greater value from the companies having higher intellectual capital effectiveness and which in turn yield the greater success and revenue growth of both current and future performance of the companies in coming years.

3. Dimitrios Maditinos *et al.* (2011) states statistically significant relationship among human capital efficiency and financial performance of a company.

Objective of Study

1. To explore the need to measure intellectual capital in the Indian context with reference to business performance.

2. To understand the important variables associated with the intellectual capital.

3. To study the awareness of intellectual capital measurement in Indian service sector companies.

Hypothesis

There is awareness regarding measurement intellectual capital among business leaders.

Research Methodology

Research Type

The type of research is exploratory research, wherein the interviews of **leaders of 36 service sector companies (Chief Financial Officers, Business Head and Vertical Head)** are conducted to understand the real scenario of valuation of company, measurement of intellectual capital, human capital and structural capital. The research also discusses need of valuating intellectual capital and linkages to business performance.

Universe of Study

The sampling universe consists of all Indian as well as MNC Service sector companies (IT, ITeS, Financial Services, Banking and Consultancy Services).

Sample Frame: Sample Frame consists of List of Chief Financial Officers, Business Head and Vertical Head who are responsible for valuation of assets, business performance and financial reporting.

Method of Study: The study is based on primary data of pre-identified parameters related to valuation of assets, intellectual capital and company.

*Sampling Method***:** Non-probability Sampling (Convenience Sampling).

*Primary Data Collection***:** Personal formal Interview.

*Secondary Data Collection***:** Secondary data can be collected through research papers, company websites and company's annual statements.

Data Analysis and Discussion

This study faced some difficulty in data collection as in India it is observed that people are reluctant to share financial data. On promise of confidentiality and anonymity (not reveling names of the companies) 26 Chief Financial Officers, 7 Business Headsand 3 Vertical Heads (total: 36) were ready to give interview from service sector. Since the data is more in qualitative form, it is presented in two tables only to show descriptive statistics.

Table 1: Summery of Human Capital Valuation/ Measurement

Human Capital Valuation/ Measurement	Count	Percentage
Knowledge	4	11.1
Qualifications and Education	6	16.7
Training	10	27.8
Skills of Employees	20	55.6
Learning Capacity	4	11.1
Innovation Capacity and Creativity	8	22.2
Previous Experience	6	16.7
Team Work Capacity	4	11.1
Employee Flexibility	0	0.0
Tolerance for Ambiguity	0	0.0
Motivation of employees	4	11.1
Loyalty of employees	4	11.1

Table 2: Summary of Structural Capital Valuation/ Measurement

Structural Capital Valuation/ Measurement	Count	Percentage
Intangible Assets	36	100.0
Copyrights	36	100.0
Patents	36	100.0
Production Processes	4	11.1
Information Technology Resources	20	55.6
Customer Relations	0	0.0
R&D Investments	34	94.4
Supplier Relations	0	0.0
Databases	4	11.1
organizational structure	0	0.0

A total of 36 interviews were conducted ina span of 15 months for the research study. It is observed that all the organizations are aware of importance of valuation of special business units and, in turn, entire organization. Every quarter of financial year, these leaders keep close watch on current worth of all tangible assets and current net-worth of a company. On most occasions, it is aligned with quarterly financial reporting for administrative purpose. Most of the organizations use economic value added, return to assets, return to equity to measure or benchmark their business performance. They use either relative valuation (P/E ratio) or discounted cash flows for

valuation of company. These models are used for mergers and acquisitions of the companies with required modifications as per synergy creation, the market and economic conditions and respective home and host country legal system. Not a single company considers intellectual capital valuation for mergers and acquisitions. All leaders are aware of the term 'Intellectual Capital, but only 27% could state the components, namely, human capital and structural capital. Only 11.1% companies carry out intellectual capital valuation in financial and monetary (quantitative) forms. All companies keep record for qualifications and education, training, skills of employees, previous experience, loyalty of employee but did not measure them from valuation perspective. Most of the companies measure and carry valuation of intangible assets, copyrights, patents, R&D investments every quarter and Information Technology resources as a part of financial reporting but does not carry it from intellectual capital perspective. Not a single company ever valued customer relations, supplier relations, employee flexibility, employee tolerance for ambiguity and organizational structure. Only a few leaders are ready to accept that intellectual capital valuation can justify gap between book value and market value. Not a single company is ready to link intellectual capital, human capital efficiency to its financial performance.

Conclusion

The fundamental objective of this research paper was exploring the need to measure intellectual capital in the Indian context with reference to business performance. This is foundation for further analytical and applied research work. It is found that although all the interviewed organizations were aware of intellectual capital, only two companies (11%) measure intellectual capital in objective form and use it for valuation. Most of the companies value intellectual capital in some qualitative form but not in quantitative or monetary form apart from patents and copyright. There is a need to create strong awareness about intellectual capital components in service sector. Most of the industry leaders mentioned non-availability of time-tested and widely accepted valuation models for intellectual capital in the Indian context. On all remaining identified parameters, the leaders accepted importance of measurement of intellectual capital and asserted that there is a need to look beyond financial reporting and compliance. It is now important to observe how many of them implement intellectual capital measurement in their respective organizations. Thus, from the above research, it can be concluded that though intellectual capital measurement is at nascent stage in Indian service sector, the trend is towards more objective measurement of intangibles.

Future Scope

To study and use appropriate models for valuation of Intellectual capital and measure its impact on business performance.

Limitation

The organizations are not ready to share financial data considering financial confidentiality. Hence names of the organization cannot be published in research paper.

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