Chapter Two

LITERATURE REVIEW

2.1 Introduction

In chapter one, an overview of the concept of Intellectual Capital was provided and its significance in the information or knowledge age was explained. Central to intellectual capital measurement is the identification of indicators that can measure and value the intangible resources. It is assumed here that if such strategic intangible resources can be measured then they can be managed well and result in enhanced organisational performance.

In this chapter, we further explore the concept of intellectual capital and intellectual capital measurement. First we explore the meaning of the concept of IC, next we give an overview of the methods that have been developed to measure IC. We look at the various scorecard methods of IC measurement in particular as they serve the purpose of achieving our objective of identifying the various components of IC in the case of Indian Financial Services firms.

2.2 Defining Intellectual Capital and its components

The concept of intellectual capital has always been expressed in different terms which are used interchangeably. The terms intangibles or intangible assets is used in the accounting literature, the term knowledge assets is used by economists and the term intellectual capital is used in the management and legal literature – but they refer to the same thing: a nonphysical claim to future benefits (Lev, 2001, p.5). The intellectual capital movement gathered steam when the industrial economy moved towards an information/knowledge economy. With the advancement of technology and telecommunications, new resources of value creation started gaining significance. However, there was no way of showing their worth in the books of business as the five hundred year old system of accounting was not designed to value assets which did not exist in physical form. Edvinsson and Malone (1997) and Stewart (1997) talked about this at great length in their books on intellectual capital.
Increased globalisation and the differences in accounting principles that arise due to operating in different countries, brought focus on the significance of an extended performance framework which was possible to develop through IC measurement.

Although the IC literature spans more than two decades now, still there is no single definition of the term intellectual capital. To a section of experts, it could mean knowledge and skills of employees; to another, it could mean customer satisfaction and brand recall. Hence, instead of focusing on the diverse definitions; it is better to focus on the general agreement that has come about with regard to the various classes of intangible assets or intellectual capital. This so-called “taxonomy of three” has been developed following the work of Edvinsson and Malone (1997), Sveiby (1997), Roos et al. (1997), Bontis (1999) among others and it defines intellectual capital as comprised of the following:

1. human capital;
2. structural capital; and
3. relational- or customer capital

**2.2.1 Human Capital** is composed of the skills, talent, knowledge and expertise of the employees of an organisation. It can be described as an organisation’s collective ability to extract the best solutions for customers from the knowledge and experience of its employees.

Human capital refers to the advantages provided by competence, attitude and the innovative capability of the staff of the company (Roos and Roos, 1997).

**2.2.2 Structural Capital** can be thought of as the knowledge that has been captured and institutionalised within the structure, processes and culture of an organisation. It includes patents, copyrights, proprietary software, trademarks and trade secrets and generally speaking all documented organisational know-how.

Edvinsson and Malone (1997) describe it as “all intellectual capital that stays in the company when employees go home at night”.

**2.2.3 Relational Capital or Customer Capital** refers to all of the organisation’s relationships with the outside world such as: satisfied or unsatisfied clients and their
loyalty to the organisation, brand recognition, company reputation and business relationships with external partners, suppliers etc.

This is the generally accepted classification that has been developed by Edvinsson and Malone, Sveiby, Roos, Sullivan, Mouritsen and Bontis.

2.3 Measuring Intellectual Capital

A number of IC measurement methods have been proposed in the literature over the last twenty years. However, as mentioned in the first chapter, there are two types of problems that the measurement methods deal with – internal management problems and external reporting problems. For the purpose of the study, we need to select those methods that address both these issues. Also, the research study focuses on developing individual components or indicators that best represent IC in the case of financial services firms hence the focus would be on the scorecard methods of measuring IC.

Scorecard Methods (SC) Methods of measuring Intellectual Capital are the methods where various components of intangible assets or intellectual capital are identified and then different indicators are generated for those components and they are reported in a scorecard format or displayed as graphs.

A component-by-component analysis of IC is to break it down into several components and then analyse each component. Under this method, different units of measurement are used to value each component. However, to be truly effective, the measures should reflect the strategic intent of the organization as a whole. The measures developed from this approach are usually company or industry specific and thus have limited generalization. Moreover, this approach is considered to be complicated due to large number of measures used in valuing the different components of IC.

The well-known examples of scorecard methods are Balanced Scorecard, Intangible Asset Monitor, Skandia Navigator, IC-Index and National Intellectual Capital Index.
As Sveiby notes, the advantages of the SC methods are that they can create a more comprehensive picture of an organisation’s health than financial metrics and that they can be easily applied at any level of an organisation. They measure closer to an event and reporting can therefore be faster and more accurate than pure financial measures. Since they do not need to measure in financial terms they are very useful for non-profit organisations, internal departments and public sector organisations and for environmental and social purposes. Their disadvantages are that the indicators are contextual and have to be customised for each organisation and each purpose, which makes comparisons very difficult. The methods are also new and not easily accepted by societies and managers who are used to see everything from a pure financial perspective.

The Scorecard methods were the first stage of measuring intellectual capital. Such methods were designed as a set of different IC related indicators and intended to capture an organisation’s intangible assets. The search for critical IC indicators is a very relevant topic for both practitioners and researchers. The set of indicators thus selected are rigorously monitored and valued. Here is a description of few popular scorecard methods of measuring IC:

1. Balanced Scorecard
2. Intangible Asset Monitor
3. Skandia Navigator Model
4. IC Index
5. National IC Index

Another way of measuring Intellectual Capital is at the organisational level i.e. they use organisational level metrics to calculate IC. The most popular method in literature under this category is Value Added Intellectual Coefficient (VAIC™) which has been explained in the section 2.5.1 of this chapter.

Following table presents these well-known methods in literature based on their classification on two dimensions – the focus of analysis and the purpose of measurement. The focus of analysis means whether the method tries to identify
different components of IC or tries to measure IC at organisational level. The purpose of measurement means whether it tries to solve internal management problems or external reporting problems.

**Table 6: Classification of well-known IC Methods**

<table>
<thead>
<tr>
<th>IC Measurement Methods</th>
<th>Focus of Analysis</th>
<th>Purpose of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Scorecard (BSC)</td>
<td>Individual Components</td>
<td>Internal Management (Mgmt)</td>
</tr>
<tr>
<td>Intangible Asset Monitor (IAM)</td>
<td>Individual Components</td>
<td>Internal Mgmt + External Reporting</td>
</tr>
<tr>
<td>Skandia Navigator Model (SNM)</td>
<td>Individual Components</td>
<td>Internal Mgmt + External Reporting</td>
</tr>
<tr>
<td>IC-Index</td>
<td>Individual Components</td>
<td>Internal Mgmt + External Reporting</td>
</tr>
<tr>
<td>National IC Index</td>
<td>Individual Components</td>
<td>Internal Mgmt + External Reporting</td>
</tr>
<tr>
<td>Value Added Intellectual Coefficient (VAIC™)</td>
<td>Organisational level</td>
<td>Internal Management (Mgmt)</td>
</tr>
</tbody>
</table>

Source: Adapted from Andriessen, 2004; Sveiby 2010

### 2.3.1 Balanced Scorecard

Kaplan and Norton introduced Balanced Scorecard in a 1992 *Harvard Business Review* article (Kaplan and Norton, 1992). The article was based on a multi-company research project to study performance measurement in companies whose intangible assets were the main source of value creation for them.

The main concept of the framework is the existence of a vision: a central cause that lies on the top of strategic procedures. This vision points out specific objectives that the management should complete and which are attributed to four strategic areas called perspectives.

The Balanced Scorecard has the following four perspectives:

1. **Financial**: The strategy for growth, profitability and risk viewed from the perspective of the shareholder.
2. **Customer**: The strategy for creating value and differentiation from the perspective of a customer.
3. **Internal Business Processes**: The strategic priorities for various business processes that create customer and shareholder satisfaction.
4. **Learning and Growth**: The priorities to create a climate that supports organization change, innovation and growth.
The implementation of a balanced scorecard framework includes four processes that help top management to “connect long-term objectives with short-term actions”. Although many corporations implemented this for executing their strategy, there were few shortcomings. The companies which lacked leadership and commitment from the top could not continue with it. The scholars also termed the balanced scorecard theory as flawed because it presented managers with a scorecard that gives no score (Jensen, 2001). This means that there is no single value that measures how they have performed.

However, the tool has achieved its purpose of developing a more robust measurement and management system that included both operational and financial metrics, along with several others to measure a company’s future performance.

2.3.2 Intangible Asset Monitor

Karl-Erik Sveiby was one of the earliest practitioner consultants who contributed to the theory and practice of intellectual capital and managing intangible assets. His Intangible Asset Monitor (IAM) is a method for calculating a number of relevant indicators for measuring intangible assets. Sveiby (1997) proposed a conceptual framework based on three families of intangible assets: external structure (brands, customer and supplier relations); internal structure (the organization: management, legal structure, manual systems, attitudes, R&D, software); and individual competence (education, experience). These assets are described as follows:

1. **Internal structure** is generally within an organization and owned by the organization. It includes patents, concepts, models, information technology, and business systems. Organizational structure and culture are considered as a part of the internal structure. This is equivalent of structural capital of the other models.

2. **External structure** is the relationship with external parties (customers and suppliers), including brand names, trademarks, and reputation. The value of the external structure is primarily influenced by how well the company meets its stakeholders’ needs. This is equivalent to relational or customer capital in the taxonomy of three.
3. *Individual competence* is employees’ individual ability, including skill, education, experience, personal values and emotional intelligence, to help achieve organizational goals. This competence is largely owned by employees themselves and difficult to be transferred.

### Table 7: Matrix of IC Measures of Intangible Asset Monitor

<table>
<thead>
<tr>
<th>Indicators of Growth/Renewal</th>
<th>Individual Competence</th>
<th>Internal Structure</th>
<th>External Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Years in profession</td>
<td>Investments in internal structure</td>
<td>Profitability per customer</td>
</tr>
<tr>
<td></td>
<td>Education level</td>
<td>Customers contributing to systems/ process building</td>
<td>Organic growth</td>
</tr>
<tr>
<td></td>
<td>Training Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turnover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Efficiency</th>
<th>Proportion of professionals in the company</th>
<th>Proportion of support staff</th>
<th>Satisfied customer index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Leverage effect</td>
<td>Sales per support staff</td>
<td>Win/loss index</td>
</tr>
<tr>
<td></td>
<td>Value added per professional</td>
<td>Corporate culture poll</td>
<td>Sales per customer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Stability</th>
<th>Average age</th>
<th>Age of organisation</th>
<th>Proportion of big customers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seniority</td>
<td>Support staff turnover rate</td>
<td>Age structure</td>
</tr>
<tr>
<td></td>
<td>Relative pay position</td>
<td>Devoted customers ratio</td>
<td>Devoted customers ratio</td>
</tr>
<tr>
<td></td>
<td>Professional turnover rate</td>
<td>Frequency of repeat orders</td>
<td>Frequency of repeat orders</td>
</tr>
</tbody>
</table>


In his conceptual model, Sveiby identified three measurement indicators: growth and renewal, efficiency, and stability for each of the three intangible assets. He recommended that managers select few variables indicative of each indicator. This model was adopted in the international training consultancy firm in Sweden – Celemi, for monitoring and measuring its knowledge assets.

In essence, the Intangible Assets Monitor is a way of presenting a number of relevant indicators in a simple format that could be understood easily. These indicators should reflect the company’s strategy so only a few of the measurement indicators for each intangible asset with the most important areas needing to be covered under those of growth and renewal, efficiency, and stability should be included.
### 2.3.3 Skandia Navigator Model

The Navigator Model is one of the best known scorecard methods that developed at the same time of balanced scorecard and intangible assets monitor and was influenced by them. The development of other IC measurement models has also been influenced by the Navigator. Skandia is considered the first large company to have taken big initiatives to measure knowledge assets. Skandia first developed its IC report internally in 1985, and became the first company to issue an IC addendum accompanying its traditional financial report to shareholders in 1994.

Leif Edvinsson was the chief architect behind Skandia’s initiatives of developing this dynamic and holistic IC reporting model. The research done by his team revealed certain success factors within the company which had to be maximised. “These success factors could in turn be grouped into four distinct areas of focus: financial, customer, process, renewal and development as well as a common fifth area – human”.

This new accounting taxonomy sought to identify the roots of a company’s value by measuring hidden dynamic factors that underlie “the visible company of buildings and products” (Edvinsson and Malone, 1997, p.11). According to Skandia’s model the hidden factors of human and structural capital when added together comprise intellectual capital.

(i) **Human Capital** is defined as the combined knowledge, skill, innovativeness, and ability of the company’s individual employees to meet the task at hand. It also includes the company’s values, culture, and philosophy. Human capital cannot be owned by the company.

(ii) **Structural Capital** is the hardware, software, databases, organizational structure, patents, trademarks, and everything else of organizational capability that supports those employees’ productivity - in other words, everything that gets left behind at the office when employees go home. Structural capital also provides customer capital, the relationships developed with key customers. Unlike human capital, structural capital can be owned and thereby traded.
Intellectual Capital equals the sum of human and structural capital. According to Edvinsson and Malone (1997), IC encompasses the applied experience, organizational technology, customer relationships and professional skills that provide Skandia with a competitive advantage in the market.

Edvinsson incorporated the idea “customer capital” from Hubert Saint-Onge who was conceptualising and developing CIBC Leadership Centre at Canadian Imperial Bank of Commerce during that time.

In sum, Skandia’s value scheme contains both financial and non-financial building blocks that combine to estimate the company’s true value. The current study considers the following four areas of focus apart from the financial one:

(i) Human Focus
(ii) Customer Focus
(iii) Structural Focus: this has been further divided into
   (a) Process Focus
   (b) Renewal and Development Focus

The full model as explained in the book Intellectual Capital by Edvinsson and Malone (1997) has been presented in Appendix 1. In the table below are few examples of IC indicators under the different areas of focus employed in the study:

<table>
<thead>
<tr>
<th>Human Focus</th>
<th>Customer Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Index</td>
<td>Market Share</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>Number of Customers</td>
</tr>
<tr>
<td>Employee Turnover</td>
<td>Customers lost</td>
</tr>
<tr>
<td>Average years of service with company</td>
<td>Average duration of customer relationship</td>
</tr>
<tr>
<td>Time in training (days/year)</td>
<td>Satisfied Customer Index</td>
</tr>
<tr>
<td>Number of women managers</td>
<td>Average Customer size</td>
</tr>
<tr>
<td>Average age of employees</td>
<td>Customer rating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Focus</th>
<th>Renewal and Development Focus</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing time</td>
<td>Competency development expense/employee</td>
<td></td>
</tr>
<tr>
<td>IT expenses per employee</td>
<td>Marketing Expense/Customer</td>
<td></td>
</tr>
<tr>
<td>Administrative Expense/Total Revenues</td>
<td>Satisfied Employee Index</td>
<td></td>
</tr>
<tr>
<td>Administrative expense/employee</td>
<td>Business Development Index/Administrative expense</td>
<td></td>
</tr>
<tr>
<td>IT expense/administrative expense</td>
<td>Average customer duration with company in months</td>
<td></td>
</tr>
</tbody>
</table>

Source: Edvinsson and Malone (1997)
The Skandia IC report uses about 91 new IC metrics plus 73 traditional metrics to measure the five areas of focus making up the Navigator model. Edvinsson and Malone (1997) acknowledge that various indices may be redundant or of varying importance. Yet in trying to use their experience to create a universal IC report, they have used more than 100 metrics.

Edvinsson and Malone (1997) argue that IC represents such a fundamentally new way of looking at organizational value and that the presence and value of intangible assets is capable of accounting for the significant widening gap between companies’ valuing of enterprises stated in corporate balance sheets and investors’ assessment of those values.

The indicators used in the IC supplements of Skandia are said to be non-financial but they are not typically non-financial, this means that although they measure an intangible element, they are represented in financial terms.

Edvinsson and Malone have explained in their book that the indicators measured result in anything from financial value measured in currency to ratios, efficiency measures based on time, workload and quality and developmental measures concentrating on training, research and development aspects. This was seemingly the simple task; establishing key indicators which contributed to the company’s success. Of far greater difficulty was attempting to measure the extent of value contributed by each indicator. This led to the birth of what became known as the Skandia navigator. This was a system developed to track performance by monitoring the key indicators identified above.

Skandia’s considerable efforts in creating the taxonomy to measure a company’s intangible assets motivated others to look beyond the traditional sources of value creation for organizations. The strength of the Skandia Navigator model is in recognizing the role of customer capital in creating value for an organization and how the very nature of customer relationships has changed. For example, Edvinsson and Malone (1997) offer five very specific indicators of customer capital: customer type, duration, role, support, and success as evidence of the important role played by customers in creating value for organizations.
Various researchers point out that Skandia assigns no dollar value to its IC, but uses proxy measures of IC to track trends in the assumed value added. Besides, it is very difficult to generalise this model as every company would need to possess a clear understanding of which intangible assets were truly valuable for the organization and identify appropriate metrics. Another weakness of the model as pointed out by Roos et al. (1997) is that the model offers only a snapshot in time, like a balance sheet; and cannot represent dynamic flows of an organization. The model therefore has no way of measuring the interconnections between the different components of IC.

2.3.4 IC – Index

IC-index is a methodology introduced in 1997 by the team of Johan Roos, Goran Roos, Nicola Dragonetti and Leif Edvinsson (Roos et al. 1997, Roos and Roos 1997). The notion of an IC-Index was first advanced by Goran Roos and his colleagues at Intellectual Capital Services Ltd. and was first used by Skandia in its 1997 IC supplement to the annual report. The IC-Index takes on the features of Skandia Navigator but goes one step further. The IC-Index attempts to consolidate all the different individual indicators into a single index, and to correlate the changes in intellectual capital with changes in the market (Roos, Roos, Dragonetti and Edvinsson, 1997). A summary index provides an immediate improvement to having long lists of individual indicators because it requires companies to understand the priorities and relationships that exist between their different measures.

The main concept of their work is the importance of company’s strategy because they acknowledged that an IC system is good only if it is grounded in the company’s identity and strategy.

Once indicators are selected from participants they are thoroughly examined and those finally selected have to be expressed as a dimensionless number. The indicators chosen were weighed and then united into a single summarizing index. Through this method, IC values can be compared through different years and different companies provided that the same indices and the same weights have been used. This method’s benefit, to lead in a specific value, classifies IC-index in the group of 2nd generation methods (Neely et al 2003).
As pointed out by Bontis, an IC-Index is very much context specific and is therefore limited in its universality among companies. Definitions, strategic prioritizing, choice of indicators, etc. all make comparisons of any absolute IC-Index summary value calculated for different companies or over time by one company meaningless. Like most other measures of tangible assets, an IC-Index does depend on value judgements, in the choice of weights, indicators, and even the assumption that IC is present and important in company operations. The approach is company-specific and does not allow for a broad comparison across the industries.

The advantages of the IC Index approach is that it allows firms to understand their intellectual capital strengths and weaknesses so that they can focus on the intangible assets and competences which matter most to them.

2.3.5 The National Intellectual Capital Index

The National Intellectual Capital Index is a recent IC method that has been developed by Nick Bontis and it uses a modified version of Skandia Navigator model. The index is based is on a conceptual framework in which the IC of a nation comprises four sub-components that include human capital, process capital, renewal capital and market capital. Appropriate metrics or measures are selected under each of these categories and then the respective sub-index is constructed. For example, to calculate the National Human Capital Index, few metrics selected by an expert panel are – literacy rate, number of tertiary schools per capita, percentage of primary school teachers etc. Once all the sub-indices are calculated, they are then combined to form the overall composite NICI and the countries are ranked according to this score.

Bontis developed NICI for the Arab region, an initiative established by the United Nations and ranked the different countries of the region based on their NICI scores. Prior to this, there have been two countries that have examined their IC development: Sweden and Israel.

Bontis (2004) says that the IC of a nation or a region requires the articulation of a system of variables that helps to uncover and manage the invisible wealth of a country. The reason for finding reliable measures of knowledge assets is that such measures can help governments in managing their intangible resources which determine that success of their economies.
Similarly, Lin and Edvinsson (2008) developed a model to measure National Intellectual Capital of Nordic countries and compared 40 countries based on an IC map of 29 indicators. Andriessen and Stam (2005) applied the theory of multidimensional value measurement to combine indicators into measures of intellectual capital value and develop an Intellectual Capital Monitor for the European Union. The IC Monitor could be seen as a combination of Edvinsson’s Skandia Navigator and Sveiby’s Intangible Assets Monitor.

Intellectual Capital of Nations is a concept that applies the principles of intellectual capital measurement and management on a macro-economic level, in such a way that it helps to give direction to future economic developments. The above examples are all based on Skandia Navigator whose taxonomy has become the standard in reporting about the intellectual capital of nations.

2.4 Reporting Intellectual Capital

Many companies have experimented with their intellectual capital reports, Celemi (Intangible Asset Monitor) and Skandia (Navigator) were the pioneers in this field. Over the last two decades, many companies have worked on their own way of reporting their intellectual capital to the external stakeholders. Some follow a set pattern e.g. in Europe and others rely more on narratives e.g. in India. This section looks at these aspects in detail.

2.4.1 IC Disclosure by Companies

The IC Disclosure studies in the field of intellectual capital employ content analysis. Content analysis as a research method is well established in the field of IC in order to inquire into IC reporting. It is a process of analysing textual material. The importance of different categories of information is assumed to be reflected by the quantity of information disclosed (Beattie and Thomson, 2007).

The substance or content of the disclosures made by firms in their annual reports is an area of interest to many researchers. A ‘content analysis’ method of reading and capturing IC in annual reports was developed and used for the OECD in 1999. Several subsequent studies have adopted this research method to capture and organise diverse
empirical data. Such studies have been conducted in Australia (Guthrie and Petty, 2000), Canada (Bontis, 2003), Hong Kong (Petty, 2003a), Ireland (Brennan, 2001), Italy (Bozzolan, Favotto and Ricceri, 2003), South Africa (April, Bosma, and Deglon, 2003) and Sri Lanka (Abeysekera, I. & Guthrie, J., 2003, 2004).

Two theories - stakeholder theory and legitimacy theory - are among the better known theories that justify the use of annual reports for data collection and data analysis and they are described below:

(i) **Stakeholder Theory**

According to stakeholder theory, an organisation’s management is expected to undertake activities deemed important by their stakeholders and to report on those activities back to the stakeholders.

This theory suggests that all stakeholders have a right to be provided with information on how organisational activities impact them even if they choose not to use the information, and even if they cannot directly play a constructive role in the survival of the organisation (Deegan, 2002). Stakeholder theory highlights organisational accountability beyond simple economic or financial performance. It suggests that organisations will elect to voluntarily disclose information about their intellectual, social, and environmental performance, over and above mandatory requirements, in order to meet real or perceived stakeholder expectations.

(ii) **Legitimacy Theory**

Legitimacy theory is closely linked to stakeholder theory. From the perspective of legitimacy theory, a company would voluntarily report on activities if the management perceived that this was what the community expected. Legitimacy theory relies on the notion that there is a ‘social contract’ between the company and the society in which it operates. The social contract is a way of describing the multitude of expectations that a society has on how an organisation should conduct its operations. These societal expectations are not fixed, but change over time. This requires the company to be responsive to the environment in which it operates (Deegan, 2002).
Based on this theoretical foundation and the fact that intellectual capital is still at a nascent stage, the researchers in the field have adopted content analysis as an established research method to analyse the extent of IC disclosures by companies in different industries. Following are some of the most notable studies in the field:

(i) Guthrie and Petty (2000) carried out a content analysis of the annual reports of the 20 largest Australian companies in an attempt to understand the extent to which these companies report their IC. The authors used the Intangible Assets framework developed by Sveiby (1997), and found that, in general, the key components of IC are not understood well, identified clearly, not managed efficiently and not reported consistently.

(ii) Brennan (2001) analysed the intellectual capital reporting practices of eleven knowledge-based Irish listed companies and found that their level of disclosure was low.

(iii) Ordonez de Pablos (2002) did an exploratory study that investigated the state of best practices in measuring and reporting IC in pioneer firms in Asia, Europe and the Middle East and aimed to provide a holistic model for IC reporting. She concluded that intellectual capital reports provide the firms with internal as well as external benefits. Examples of these benefits are profit generation, strategic positioning, customer loyalty, cost reductions, improved productivity etc. She further found that managers in Asia and Middle East were very interested in knowledge management and intellectual capital measurement and reporting in Europe. Most of the surveyed firms from these regions declared that they hoped to work on these issues soon. Most advanced firms were very involved in knowledge management strategies but not in IC measurement and reporting.

(iv) Bontis (2003) did a computer assisted content analysis of 11,000 Canadian corporations where a collection of 39 IC terms was finalised by a panel of researchers. The study found that only 7 terms out of these 39 IC terms were disclosed in the annual reports of these corporations. However, these 7 terms are the most popular terms in IC literature. Bontis concludes that IC disclosure is still very much an academic discussion and though IC has a strong impact on the drivers of future earnings yet it is largely ignored in financial reporting.
Bozzolan et al. (2003) replicated the Guthrie and Petty study on Italian firms and found that Italian companies disclosed more IC information than those in Australia.

Guthrie and Petty (2004) study on IC reporting by Hong Kong and Australian companies reveals that the level of disclosure was low. Further, where there is disclosure, it is mainly presented in the form of qualitative information. Finally, the disclosure level is positively related to company size, as found in previous literature.

Ordonez de Pablos (2005) also carried out a case study to analyse how Indian firms built their IC reports. Reliance Industries, Balrampur Chini Mills and Shree Cements were the three firms analysed and the study offered insights into how they measured and reported their knowledge-based resources and how were these reports different from the ones published in Europe. The researcher found that the Indian IC reports do not focus on the business model, values, vision and mission and/or knowledge management issues as in the case of European IC reports. The Indian reports followed a “narrative” style. In its 1997 annual report, Balrampur Chini says that the IC report is “to provide shareowner a different – a broader perspective of the company and the fundamentals that drive its business”. The IC reports of Reliance Industries (1998) focused on the importance of IC report, IC and value creation, human capital, structural capital, customer capital and investor capital. Shree Cement produced an independent IC report (2001) and stated that the company’s IC resided in its own employees. Thus, these reports describe their intellectual capital and its different components without focusing on specific indicators that measure these components. In contrast with European IC reports, the Indian reports did not combine a “narrative” and “quantifying” style.

Roslender and Fincham (2004) reported and discussed IC reporting in UK. Drawing on a series of semi-structured interviews, the study documented how senior managers in six knowledge-based organisations view intellectual capital and related developments.

Guthrie et al. (2006) analysed the IC reporting practices in UK companies and concluded that IC issues considered important varied from sector to
sector with the most important IC elements reported in each sector being related to knowledge-related issues.

Sujan and Abeysekera (2007) investigated the IC reporting practices of the top Australian firms. Using content analysis of annual reports of the top 20 firms (by market capitalisation) listed on the Australian stock exchange in 2004, the study found that there was still no established and generally accepted Australian framework for IC reporting.

Beattie and Thomson (2006) highlighted specific issues that arise in using content analysis to investigate IC disclosures. They concluded that the depth and breadth of the IC concept and the lack of common definitive language make it difficult to establish the extent and nature of disclosure currently provided. They further add that the range of choices available to researchers in terms of analysing and measuring disclosures hinders interpretation and comparability.

### Table 9: Examples of IC terms identified from prior literature

<table>
<thead>
<tr>
<th>Human Capital</th>
<th>Structural Capital</th>
<th>Relational Capital</th>
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<td>Administrative Processes</td>
<td>Basic marketing capability</td>
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<td>Attitude</td>
<td>Brands</td>
<td>Business Collaborations</td>
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<td>Capabilities</td>
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<td>Commitment</td>
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<td>Competence</td>
<td>Cultural diversity</td>
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<td>Creativity</td>
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<td>Distribution Channels</td>
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<td>Education</td>
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<td>Employee Productivity</td>
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<td>Work related competencies</td>
<td>Process Capability</td>
<td>Stakeholders</td>
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### 2.4.2 Guidelines for IC Reporting

In Europe there have been various initiatives to address the reporting of intellectual capital, most well-known of them being the Meritum Guidelines and a Danish initiative on intellectual capital statements (DATI) sponsored by the Danish
government. As a way of overcoming the information imbalance, these research projects suggest that companies start publishing a supplement to the annual report i.e. an intellectual capital statement (CIMA, 2001).

Based on best practices observed in more than hundred European companies, the projects resulted in guidelines on how to report intellectual capital. Organisations were encouraged to produce reports that contained the following elements:

(i) Narratives about the company vision
(ii) Management challenges and actions
(iii) A set of indicators

The knowledge narrative is about the achievements of the firm and conveys how the products and services of a firm add value to its customers. It establishes the link between value perceived by customers and the company’s knowledge resources.

Management challenges are a set of challenges derived from the knowledge narratives and this involves explaining which knowledge resources need to be strengthened in order to address the challenges and achieve the strategic objective. These challenges are further broken down into activities, initiatives and processes that need to be put into place to address the challenges and attain competitiveness.

In order to measure the management of organisational challenges, the firm puts in place a set of indicators. This set of indicators makes it possible to monitor whether the initiatives have been successful and the management challenges have been met. There is no predefined set of measures and organisations will have to choose the most appropriate set for their unique position and context.

Many firms across Europe already publish IC statement on a voluntary basis. They see it as a way to increase transparency and to explain their view of the company’s business model to the market. However, this may also lead to the situation of information overload as many companies are also producing corporate social responsibility reports, environmental reports etc.

Mouritsen, Bukh and Marr analysed the MERITUM and DATI initiatives that were aimed at addressing the shortcoming in corporate reporting. According to them, the
Danish guidelines focused on the linkages between the various resources in their narrative whereas the Meritum guidelines emphasized the identification of different components (human capital, organisational capital and relational capital) and attempted to justify their existence as organisational value drivers. The authors explain that IC statements can be used as a tool for conceptualising the important role and value contribution of intellectual capital. They also explain that the purpose of these IC statements as being twofold – as a management tool used internally in the firm and as a communication tool used to communicate how the firm works to develop its knowledge resources to generate value. They conclude by saying that there is at present, an information gap which traditional accounting cannot fill. IC statements are one way to overcome this gap.

2.5 Relationship between IC and Business Performance

Studies by Roos and Roos (1997) indicate that the growth or decline of the intellectual capital of the company can interpret as an early warning signal of subsequent financial performance. In their support, Lank (1997) is of the opinion that the interest in intangible assets gives the opportunity to develop new business measures that are much more likely to be indicators of future business success rather than the traditional backward looking financial measures. Roos and Roos also stated that the vehicle for measuring intellectual performance is a set of indicators used for each intellectual capital category. Their advice with regard to choosing indicators includes the following:

(i) To be a useful measurement mechanism, the indicators should be grounded in the intellectual capital categories selected;

(ii) The intellectual performance system must be rooted in the language of the company or unit.
2.5.1 Value Added Intellectual Coefficient (VAIC™)

Many researchers, including those from India, have used VAIC™ as a measure of IC. This is an IC measurement method that calculates IC at the organisational level, as explained in the introductory chapter.

The VAIC™ method was developed by Ante Pulic of Austrian Centre for Intellectual Capital. He believed that existing accounting system cannot meet the requirements of modern companies because it is value creation that is the core of modern business and not costs. If a company aims to achieve a maximum result with its given resources management must know how successfully they create value in the company. Information provided by a basic economic function - measuring the efficiency of value creation - is therefore decisive for successful management of intellectual assets.

The VAIC™ method measures and monitors the value creation efficiency in the company using accounting based figures. The better a company's resources (capital employed and intellectual capital) have been utilised, the higher the company's value creation efficiency will be (whereby human capital, as the decisive value creation factor of modern business). This results in an increase of value added on one hand and determines the market value on the other hand, as per the research done at the Austrian Intellectual Capital Research Centre.

\[ \text{VA} = \text{OUT} - \text{IN}, \]

\( (i) \quad \text{Calculation of components of VAIC™} \)

Value Added (VA): the value added indicator is measured in monetary units. It is the difference between the output (OUT) and input (IN) and represents the value created by the organization during a year. Thus,

\[ \text{VA} = \text{OUT} - \text{IN}, \]

Output (OUT): Output has been defined as total income or total revenue generated by an organization during the year by selling goods or services;

Input (IN): Input has been defined as the costs that are incurred by the organization towards purchase of inputs for business operations. All expenditure related to human resources – such as employees’ compensation and expenses on training and
development etc - would be excluded from the ‘input’ for the simple reason that it would be treated as investment (human capital) and not a cost.

Human Capital (HC): Human capital is one of the most important components of intellectual capital. It covers all expenditure on employees’ compensation and development. The value-added approach regards employees as a key resource who invests their knowledge, skills and intellect in managing the organization and creating wealth; hence the expenditure on employees is considered as an investment or human capital.

Structural Capital (SC): It refers to the organization structures, systems and processes that enable an organization to exploit the intellectual capital. In Pulic’s (1998) VAIC model, structural capital is obtained by deducting human capital from the value added.

Structural Capital = Value Added – Human Capital

Capital Employed (CE): It includes the net physical and material assets of the organization employed for attaining financial goals.

(ii) Calculation of Ratios

Three main ratios are required for calculation of VAIC:

Human Capital Efficiency (HCE): It is a ratio of VA to HC. This ratio gives the contribution made by every unit of money invested in HC to the VA in the organization. It is an indicator of value added efficiency of human capital.

HCE = VA/HC ……………………(i)

Capital Employed Efficiency (CEE): It is a ratio of VA to CE; this ratio shows the contribution made by every unit of CE to the VA in the organization. It is an indicator of value added efficiency of capital employed.

CEE = VA/CE ………………………..(ii)
Structural Capital Efficiency (SCE): It is the ratio of SC to VA. It is an indicator of value added efficiency of structural capital.

\[ \text{SCE} = \frac{\text{SC}}{\text{VA}} \]  

(iii)

Value Added Intellectual Coefficient (VAIC): VAIC is the sum total of the three ratios calculated above, i.e. the sum of the HCE, SCE and CEE, and indicates the intellectual capability of the organization.

\[ \text{VAIC} = \text{HCE} + \text{CEE} + \text{SCE} \]  

(iv)

Value Added Intellectual Coefficient indicates the efficiency of the employed potential of a company, financially as well as intellectually. Higher VAIC value suggests a better management utilization of the company’s value creation potential (Pulic, 2000).

There have been several studies in literature that have made use of this method because of two reasons: one is that it is easily calculable from financial ratios and the other is that its effect on the financial performance of firms can be easily analysed through various statistical analyses.

(i) Goh (2005) measured the IC performance of commercial banks in Malaysia using this method and the results showed that Malaysian banks have higher human capital efficiency than structural and physical capital efficiencies.

(ii) G. Barathi Kamath (2007) applied the VAIC™ method to study the intellectual capital performance of Indian Banking sector. The study confirmed that there were vast differences in different segments of Indian banks with foreign banks raking at the top in human capital efficiency.

(iii) Yalama and Coskun (2007) analysed the IC performance of Turkish banking industry and the results showed that the annual IC efficiency was not stable.

(iv) Saengchan (2007) studied Thailand banking industry and the research proved that there was strong relationship between IC efficiency and banks financial performance.
(v) Puntillo (2009) studied Italian banking industry but the study failed to find any evidence of a strong relationship between IC and business performance as measured by ROA and ROE.

(vi) Mavridis (2004) applied the VAIC™ method to analyse the IC performance of Japanese banks and confirmed the existence of significant performance differences among the various groups of Japanese banks as well as the differences between the Japanese and some European banks.

(vii) The study of Australian banks by Joshi et. al. (2010) shows that they have relatively higher HC efficiency than capital employed efficiency and SC efficiency.

(viii) Veltri and Silvestri (2011) studied Italian financial sector companies and confirmed from their findings that positive relationship existed between IC components as measured by VAIC™ and business performance. The results also showed that investors attached more value relevance to human capital efficiency (HCE) than to structural capital efficiency (SCE).

(ix) Maditinos et.al. (2011) analysed the impact of IC on Greek firms’ market value and financial performance. The results proved that there was a relationship between human capital efficiency and financial performance.

(x) Amitava Mondal and Santanu Ghosh (2012) investigated the relationship between IC and financial performance of 65 Indian Banks. They used VAIC™ method to measure IC, return on equity (ROE) and return on assets (ROA) to measure the profitability of the banks. They used multiple regression technique to analyse the impact of IC on their performance. They got mixed results through their analyses but they could conclude that banks’ IC was vital for their competitive advantage.

2.5.2 Use of Proxy Indicators

In the literature, many studies have made use of proxy variables to represent the three components of IC i.e. human capital, structural capital and relational capital.

Skandia had published its IC reports as supplements to annual reports for five years. In these supplements, the various business units published their own set of IC
indicators for different categories and tracked their progress. Few of these IC reports are illustrated in Appendix 2.

Several studies have made use of proxy indicators of IC and tried to arrive at its relationship with business performance.

(i) Proxy Indicators for Firm Performance

There are various firm performance measures found in extant literature. Accounting based performance measures like ROA (return on assets) and ROE (return on equity) have been mostly preferred as seen in the research papers on Value Added Intellectual Coefficient (VAICTM). Market based measures like market value added and price to book ratio have been used to analyse the relationship with the market returns.

(ii) Proxy Indicators for Intellectual Capital

A number of IC models developed by companies made use of different indicators under the different categories of human capital, structural capital and relational/customer capital. Many researchers, while analysing and measuring IC have made use of such proxy indicators for intellectual capital. Staff costs are an important indicator of employee level human capital. Variables like number of employees, sales per employee and net profit per employee have been used to represent human capital (Edvinsson and Malone, 1997; Brennan and Connell, 2000; Wang, 2008). Indian banks, in their annual reports, report employee productivity in terms of business per employee and net profit per employee.

Sales and administrative expenses per employee has been used as proxy for organisational capital (Edvinsson and Malone, 1997; Roos et.al., 1997; Wang, 2008).

Örs (2006) conducted a study on the role of advertising in commercial banking and found that advertising has a positive and economically significant impact on bank profitability. Sales growth ratio has been used to represent relational capital (Chen, 2005; Wang, 2008).

In their paper on issues related to and policy implications of Intellectual Capital, Brennan and Connel (2000) list down the number of indicators which are used for the
various components of intellectual capital. Profit per employee, total marketing expenses are few of the indicators for representing IC.

2.6 Conclusion

A number of methods have been developed over the last two decades that aim at measuring the intellectual capital of organizations, in order to solve either internal management problems or external reporting problems. Exploring the IC literature with particular focus on IC measurement methods, the conclusion was drawn that SNM is the most appropriate method for measuring IC in order to achieve research objectives and this method has not been used in literature before in the context of Indian financial services industry.

In this chapter, we have gone through some of the most important research work that is of significance to the current study. We have seen how the Navigator model evolved, how companies communicate about their intangible resources and how researchers have used different ways of calculating IC of firms and analysed its association with business performance.

The current study fills the gap in literature by attempting to advance a methodological framework to measure IC of Indian financial services firms. Skandia Navigator model has never been employed in the context of Indian financial services sector before and a component-by-component analysis has never been undertaken. The organisational level analysis of IC has been done using the VAICTM method in few studies on the banking sector in India and those studies have shown mixed results therefore a different perspective is required to better understand the concept.

Moreover, the content analysis of the annual reports of the financial services firms has never been done before. Sectors like pharmaceuticals and information technology have been examined in the Indian context, but financial services sector has not been covered before. This is the first such attempt in this exploratory study that examines the way top management communicates about its intellectual and intangible assets to its external stakeholders.