2. Literature Review: -

As an offshoot of knowledge-based economy and knowledge management, the theme of Intellectual Capital is one such area wherein academicians have overwhelmed the practitioners in terms of innovations and suggestions. In past two decades, loads of literature has been written on this topic. The major focus areas of these writings have been conceptualization, classification and measurement of intellectual capital, its accounting and reporting and its relationship with financial performance, competitive strategy and corporate governance.

2.1. Knowledge Management and Intellectual Capital

Progression from industrial to knowledge economy (or ‘economics of ideas’ as Wiig (1997) puts it) has unleashed vast potentials for development. The catchphrase “Wants are unlimited but resources are scarce” does not hold well in this new economy because knowledge is one resource which is available in abundance. Hence, business organizations pursue knowledge-centric strategies for sustained competitive advantage. Though the importance of knowledge was recognized by mid-1980s, it took some years for managers to establish systematic Knowledge Management practices (Wiig, 1997).

Developments in the field of Knowledge Management (KM) have direct bearing on a related concept – Intellectual Capital. According to Martín-de-Castro et al. (2011), Intellectual Capital (IC) emerged as a discipline of business administration in early 1990s, roughly the same period when Knowledge Management gained attention. In literature, Knowledge Management and Intellectual Capital are related concepts. While interlinking these two concepts, Zhou and Fink (2003) assert that KM lies under the wider purview of Intellectual Capital Management. Similar thoughts have
been expressed by Edvinsson (1997) as well. Martín-de-Castro et al., (2011) present a list of definitions of IC in which a slew of researchers (for example Bontis et al., 2002; Chang et al., 2008; Hsu and Fang, 2009; Nahapiet and Ghoshal, 1998; Shariq, 1997; Subramaniam and Youndt, 2005; and Teece, 2000) have corroborated this view. The word ‘knowledge’ forms integral part of their conceptualization of Intellectual Capital. Zhou and Fink (2003) make such assertion because knowledge-based activities of an organization give rise to intangible assets. Knowledge is, thus, capitalised and converted into IC. The authors describe the complementary relationship between KM and IC Management and suggest alignment of KM processes with components of IC for organizational success. These scholars assert that management of knowledge leads to the maximization of IC of a firm.

2.2. Intellectual Capital (IC) – Definitions and Typology

One of the basic prerequisites of any domain is defining the major constructs and variables involved therein before elaborating on their characteristics and dimensions. Intellectual Capital still being an evolving field of research, there is a problem of plurality in its definition. Some notable definitions are – “Intellectual Capital is the sum of everything every-body in a company knows that gives it a competitive advantage” (Stewart, 1997; cited in Ruckdeschel, 1998); Intellectual Capital is the “intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth” (Stewart, 1997; cited in Ruckdeschel, 1998); “Intellectual Capital is defined as the knowledge that can be converted into value” (Edvinsson & Sullivan, 1996); “Intellectual capital is the collection of intangible resources and their flows” (Bontis, Dragonetti, Jacobsen, and Roos, 1999); etc. The definition of Intellectual Capital adopted in this research study is - “Intellectual capital
is the sum of the ‘hidden’ assets of the company not fully captured on the balance sheet, and thus includes both what is in the heads of organizational members, and what is left in the company when they leave” (Roos and Roos, 1997). This definition subtly indicates towards the explicit and tacit elements of Intellectual Capital.

In spite of the existing divergence in definition of Intellectual Capital, Edvinsson & Malone (1997) have signalled towards growing consensus on this matter. Bhartesh and Bandyopadhyay (2005) also conclude that irrespective of multiplicity in definitions, some common elements of IC – being knowledge-based, identifiable and utilitarian; can certainly be derived from these definitions.

In sync with the definition, the classification of Intellectual Capital also offers plurality. According to Brooking (1996), Intellectual Capital can be classified into four components – Market assets, Human-centred assets, Intellectual Property assets and Infrastructure assets. Edvinsson and Sullivan (1996) have classified Intellectual Capital into Human Capital and Structural Capital, including intangible assets. Sveiby (1997b) has suggested three components of IC – Employee Competence, Internal Structure and External Structure. The Skandia’s value model, as described by Edvinsson and Malone (1997), subdivides IC into Human and Structural capitals. Structural Capital comprises of Customer Capital and Organizational capital. Organizational Capital is further subdivided into Innovation Capital and Process Capital. The Skandia Value Model based on the classification given by Edvinsson and Malone (1997) is shown in Figure- 3.

The typology which has been adopted for this research work sub-divides Intellectual Capital into three components – Human Capital, Structural Capital and Relational or Customer Capital (Hsu and Fang, 2009; Martín-de-Castro et al., 2011; Martínez-
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Torres, 2006; Seetharaman, Low, and Saravanan, 2004; Subramaniam and Youndt, 2005). This classification is consistent with other taxonomies where similar aspects of IC have been classified under different titles. Intuitively, it is preferable to use the term ‘Relational Capital’ over ‘Customer Capital’ because it is all encompassing and includes relationships with various stakeholders and not just the customers of firm.

Bontis (2001) and Bhartesh and Bandyopadhyay (2005) describe Human Capital (HC) as the aggregate of skills, competencies, experiences, etc. of individual employees of a firm. This capital is mobile and the organization has little control over it.

Structural Capital (SC) connotes to the supportive infrastructure that enables human resource to function effectively. This may include the processes, systems, databases, patents, hardware & software, etc. This form of IC is owned by the firm and remains in it even when employees leave.

Seetharaman et al., (2004) describe Relational Capital (RC) as the revenue earning feature of a firm which is external in nature. It comprises of brand value, customer loyalty, corporate reputation, strategic alliances, business networks and relationships with suppliers and customers, etc.

### 2.3. Valuation and Measurement Techniques

Measurement of Intellectual Capital is essential because until it is measured, it cannot be managed and reported. Some researchers have independently developed their models based on a particular research survey. Nevertheless, others have proposed concept-based models. Over years, multiple methods have been put forward. Sveiby (2010) presents a compilation of valuation models of Intellectual Capital which has been subdivided into four broad categories. This work is advancement over the
previous typology of Luthy (1998) and Williams (2000). The author has classified the IC measurement models on the basis of two characteristics – whether the proposed method has the capability to yield value on monetary / non-monetary parameters and; whether the proposed model requires aggregate (organization-level) inputs or individual (component-wise) inputs to measure Intellectual Capital. Accordingly, while the below-mentioned MCM and ROA methods are used at the organizational level, DIC and Scorecard methods can be applied at the component / item level. The four broad groups have been described by Sveiby (2010) as:-

(1) **Market Capitalization Method (MCM)** – Under this method, the difference between the market value of a firm and that of its stockholders' equity is taken as the value of its Intellectual Capital. This method can lead to valuation of intangibles in dollar terms. Hence, it is useful during situations of mergers and acquisitions. Also, use of accounting variables in MCM method facilitates generalization and comparison across firms. On the flip side, MCM method lacks futuristic outlook. Some MCM models are – Tobin’s Q (Tobin, 1969), The Invisible Balance Sheet (Sveiby, 1989, 1997a) and FiMIAM (Rodov & Leliaert, 2002).

(2) **Return on Assets Method (ROA)** – Based upon conventional accounting system, under this method, the items from balance sheet and profit & loss account are used to arrive at the average pre-tax earnings of a company. This figure is then divided by average tangible assets of the firm to get Return on Assets. This is then compared with industry average. The resultant data is further processed to estimate of the value of intangible assets of the firm. The benefits of this method are similar to that of the MCM method. However, its dependence on historical
accounting data excludes the chances of use by newly established firms. Irrespective of limitations, the measures under ROA method are easy to use and are popular amongst researchers. Examples of this method are – Value Added Intellectual Coefficient (VAIC™) (Pulic, 2004), Economic Value Added (EVA) and Knowledge Capital Earnings (Lev & Mintz, 1999).

(3) **Direct Intellectual Capital Method (DIC)** – This method requires separate recognition and measurement of each component of Intellectual Capital. The values can be measured in monetary and non-monetary terms, both. DIC method is comprehensive in nature because it captures intangible elements in greater details. The valuation emerging out of this measurement gives a better picture of the Intellectual Capital of a firm. However, its particularity makes inter-firm and inter-industry comparisons difficult. Many models have been proposed which fall under this category – Dynamic Monetary Model (Milost, 2007), Technology Broker (Brooking, 1996), Inclusive Valuation Methodology (IVM) (M’Pherson & Pike, 2001), Total Value Creation (Andersen & McLean, 2000), Intellectual Asset Valuation (Sullivan, 2000), The Value Explorer (Andriessen & Tissen, 2000), etc.

(4) **Scorecard Method (SC)** – Scorecard method is the most comprehensive in nature. It expresses the values of components of Intellectual Capital in non-monetary terms. These components are captured through some indicators which are expressed in form of graphs and scorecards. This method has the usual benefits of DIC models. Nevertheless, the Scorecard models suffer from disadvantage of being non-financial in nature and complex in execution. This apart, they generate voluminous data as well which may be difficult to analyse. Prominent Scorecard models are – Balance Score Card (Kaplan & Norton, 1992),
National Intellectual Capital Index (Bontis, 2004), Value Chain Scoreboard (Lev, 2001), Skandia Navigator (Edvinsson & Malone, 1997), Intangible Asset Monitor (Sveiby, 1997b) and IC-Index (J. Roos, Roos, & Edvinsson).

An exhaustive list of prominent methods and models has been compiled in Table-A1.

As a critique to the existing IC measurement techniques, Coakes and Bradburn (2005) highlight the fact that almost all the measurement tools proposed till date fail to capture the value of Intellectual Capital. The authors report that most of the organizations do not measure their IC. Since conceptualization and classification of Intellectual Capital is largely done by academicians, the ideas put forth by them may fail to germinate and yield results in office settings (Coakes and Bradburn, 2005).

It may be interesting to note that many authors have proposed measurement methods after highlighting the limitations of pre-existing models. In general, there is a clear divide between direct and indirect methods of measuring IC. Commenting on this issue, Bontis (2001) opines two reasons that are worth mentioning. Firstly, the process of capturing knowledge is in experimental phase and hence, innumerable solutions are bound to be proposed. Secondly, the domain of Intellectual Capital still being in the embryonic stage, none of the authors will be willing to shift from their stand taken on valuation of IC.

2.4. Accounting and Reporting of Intellectual Capital

A common belief is that traditional methods of book keeping and reporting of accounting information are inadequate to capture the elements of Intellectual Capital. In the opinion of Rodov and Leliaert (2002), traditional accounting methods are based on the concept of historical costs which cannot be applied to people’s knowledge and
its exchange within an organization. Pulic (2004) finds that the classical measurement systems fail to depict the business performance in proper frame. Dumay (2009) asserts that relying on existing accounting systems to identify and measure Intellectual Capital is a futile effort. The author advocates for altogether new methods to recognise IC.

However, some researchers have attempted to develop new financial statements from the existing accounting and reporting format by making adjustments for intangibles as well. For example, Abeysekera (2003) presents a framework for Intellectual Capital reporting and measurement in the conventional books of accounts – the Balance Sheet and Profit & Loss Account. For this, the author identifies and segregates items of Intellectual Capital under heads of assets, liabilities, income and expenditure. The author develops an indicative list of ratios which can capture items of financial statements and cash flow statement.

Giving a new dimension to the debate on accounting and reporting of Intellectual Capital, Roslender and Fincham (2001) suggest that this process may be kept free from the traditional accounting methods because of its objectivity and the tendency to measure items in monetary terms. Rather, a firm may come up with its year-book kind of material which captures its intangibles in a more critical way through experience sharing and reflections of employees on issues of common interest.

Commenting on the sad state of accounting and reporting of Intellectual Capital, Seetharaman, Sooria and Saravanan (2002) state that the attempt to improve Balance Sheet reporting and inclusion of intangibles in the financial statements has remained an initiative of academicians only and practitioners have generally responded sluggishly. To start with, management can be encouraged to prepare and share
information about their IC in their financial statements with limited stakeholders. Then, they may develop the desired confidence to make such information public.

In India, firms such as Infosys Ltd. publish ‘Intangible assets score sheet’ which includes valuation of their intangible assets. As additional information, a Balance Sheet including intangible assets is also provided in the annual report. Other IT majors such as Tata Consultancy Services Ltd., Wipro Ltd., etc. also report their intangible assets in a significant way. However, such initiatives are few and voluntary and far from the general reporting norm. Bhasin (2014) has done a comparative study on IC disclosures of IT firms in India and Australia. The author finds that such disclosures are low, voluntary, not uniform and primarily qualitative in nature. Sen and Sharma (2013), who have studied IC disclosure by the Pharmaceutical and Software firms in India, also report that such disclosures are far from satisfactory and are mostly narrative in nature.

2.5. IC and Organizational Performance

Research studies have been conducted across industries and geographical boundaries to study the impact of Intellectual Capital on business performance. Commonly, preferred industries are Banking and Finance (Abdulsalam et al., 2011; Bharathi, 2010; Gigante and Previati, 2011; Joshi et al., 2010; Joshi et al., 2013; Kamath, 2010; Mavridis, 2004; Young et al., 2009), IT and Technology (Chang and Hsieh, 2011; Gan and Saleh, 2008; Kweh et al., 2013; Saleh et al., 2009; Shiu, 2006; Zéghal and Maaloul, 2010) and Pharmaceuticals (Kamath, 2008; Mehralian et al., 2012; Pal and Soriya, 2012). The research work on IC and firm performance covers varied geographical regions including Australia, Canada, Greece, India, Iran, Japan, Malaysia, Netherlands, Pakistan, Taiwan, UK and USA. While many researchers have
applied questionnaire survey method to assess Intellectual Capital and to link it with performance of firms, a large section of scholars have used the VAICTM method for this purpose. An indicative list of research studies using Pulic’s VAICTM model has been shown in the Table- A3.

2.6. IC and Performance of Pharmaceutical Firms

The VAICTM model and the new model (E-VAIC) proposed in this study have been used to evaluate the Intellectual Capital–linked performance of large pharmaceutical firms in India. Intrinsically, pharmaceutical industry distinguishes itself with its knowledge-intensive features. It is considered to be innovative and research-oriented industry which places due emphasis on quality of human capital, R&D activities, product & process innovation and intellectual proprietorship. The Pharmaceutical industry in India exhibits similar characteristics with commendable progress in basic infrastructure, range of products and technological advancement. Aspects such as implementation of good manufacturing practices, development of low cost technologies coupled with high quality products remain the major strengths of this industry. Today, an ever increasing number of pharmaceutical firms are in process of seeking drug approvals from regulatory authorities of foreign countries. All these advancements have propelled Indian Pharmaceutical industry into the league of top generic pharmaceutical players in the world.

Due to its knowledge-intensive characteristics, pharmaceutical industry is amenable for research on Intellectual Capital. Mehralian et al. (2012) have studied the impact of IC on performance of Pharmaceutical industry in Iran. The authors apply VAICTM model and report that components of IC have positive relation with just one performance variable – Return on Assets (ROA). Further, they find that the major
factor influencing organizational performance is Physical Capital and not Intellectual Capital. Hence, the study fails to establish positive link between IC and performance. Kamath (2008) has used VAIC™ model to conducted research on Indian Pharmaceutical sector. The author concludes that there is insignificant impact of VAIC™ on performance of firms.

In comparison, the study by Sharabati et al., (2010) on Jordanian Pharmaceutical Sector concludes that the effective management of IC by managers has resulted in positive performance. On a similar note, a research by Bollen et al., (2005) on managers of German Pharmaceutical firms has revealed that components of IC have positive influence on performance of firms. Based on their findings, the authors advocate inclusion of intellectual property (IP) in the models designed for studying IC and performance. Research by Chen et al., (2010) on the US Healthcare industry also establishes positive and significant relationship between IC and performance of firms.

In Indian milieu, the studies by Pal and Soriya (2012) and Ghosh and Mondal (2009) have yielded inconclusive results. Both the works report positive association between Intellectual Capital and Profitability (ROA) of a firm. However, the same is not significant in case of IC and Productivity (Asset Turnover Ratio) as well as IC and market valuation (Market-to-Book Value).

2.7. IC and Performance of Information Technology Firms

Information Technology (IT) is a knowledge-intensive sector. Continuous innovations and R&D activities are essential for survival and success of firms in this industry. Large proportion of their work force is professionally qualified and technically skilled. With lesser amount of tangible capital, IT firms have generated profits comparable to those of capital-intensive companies. Their market valuation far
surpasses book value of their assets which indicates presence of unrecognised intellectual assets. All these factors make IT an attractive sector for research especially for Knowledge Management and Intellectual Capital – related research (Joshi et al., 2012).

The Indian IT industry is characterized by its global focus, rapid growth and superior contribution to the services sector. The industry has been duly supported by Government of India through establishment of Software Technology Parks, reduction in import duties, and policy impetus for exports (Majumdar, 2010). Thaker’s (2001) study on knowledge capital of Indian firms reveals that IT industry ranks high in terms of knowledge assets. Hence, this sector has been chosen to understand the linkage between Intellectual Capital and performance of firms.

There is an array of studies which have been conducted on Information Technology firms. Scholars have studied the association of IC and its components with the performance of firms. Results are inconclusive. Both, strong and weak relationships have been reported. Shiu (2006) has measured the performance of technological firms using VAIC™ method. The author has selected Return on Assets (ROA), Market Capitalization to Book Value (MB) and Assets Turnover (ATO) as the outcome variables. The study reports positive correlation between VAIC™ and ROA as well as MB. The same is negative for ATO.

While studying the relationship between IC and performance of IT firms in Malaysia, Gan and Saleh (2008) find positive association between VAIC™ and profitability (ROA) and productivity (ATO) measures. They find that the effect of Physical Capital efficiency is more pronounced than the efficiencies of components of Intellectual Capital on a firm’s performance. In contrast, Zeghal and Maaloul (2010) report
significant positive relation between IC of firms and their stock market performance. They have focussed their research on multiple industries, including high-tech firms. Wang and Chang (2005) have studied causal relationship between various components of Intellectual Capital. They find that barring Human Capital, all other components of IC are directly linked with performance of firms.

During his doctoral dissertation, Chang (2007) has investigated the relationship between VAIC™ model and firms’ performance in Taiwan’s IT industry. The researcher has extended the VAIC™ model by including R&D and Intellectual Property Rights (IPR) in the equation. The study reports positive relation between dependent variables (Price-to-Earnings Ratio, MB, ROA, Profit Margin, Return on Equity and Basic Earning Power) and Intellectual Capital of firms. The author concludes that adding new variables enhances the predictability of VAIC™.

Wang (2006) has investigated the performance of IC and its components in Taiwanese Electronic sector. The author has applied Skandia Navigator and Ohlson’s model to address the research problem. The paper reports significant association between IC and its components and Market Value of firms. Calisir et al. (2010) have applied VAIC™ model for comparison between companies in the IT and Communication sectors of Turkey. The authors find that the efficiency of Human Capital is higher in comparison to the efficiencies of Structural and Physical Capital.

In Indian context, the research studies on IC and performance of IT firms have generally reported positive relationships. Ghosh and Mondal (2009) have conducted their research on Software and Pharmaceutical sectors using VAIC™ model. ROA, ATO and MB are the dependent variables. The authors report positive association between VAIC™ and ROA. Though, no such significant relationship is found with
ATO and MB. Similarly, Murale and Ali (2010) have also applied VAIC™ model on Indian IT sector. MB ratio is the dependent variable. They conclude that all the three variables—HC, SC and CE, are in positive correlation with dependent variable. The study by Choudhary (2010) also reports positive linkage between IC and performance.

### 2.8. IC and Performance of Healthcare Firms

As a knowledge-based sector, healthcare enterprises apply intangible assets to a large extent. Grantham et al. (1997) identify three major forces changing the landscape of this industry. These forces are - technological advancements, requirement of a wholesome management system and sovereign policy changes. Within the canopy of these factors, the authors signal towards reforms in the healthcare sector, deregulation of various norms, wider dissemination of information and technology thereby leading to developments such as telemedicine, changes in the ways of financial management and valuation of knowledge firms. They assert that growing importance of Intellectual Capital will require firms to look beyond traditional management practices.

Habersam and Piber (2003) also find merit in conducting research study on hospitals. They cite certain reasons for the same. Firstly, the authors opine that hospitals are knowledge-intensive organizations which require skilled manpower with professional expertise. Secondly, since hospitals deal with matters of life and death, various experts and professionals are required to integrate their efforts to provide better healthcare. Another important reason is that healthcare services are essential services which attract sizeable government funding. This is especially true for Public hospitals. Hence, to make best use of the money spent towards this end and to meet the popular demand for improvement in medical services and facilities, better management of hospitals is essential. All these factors create a scope for research in healthcare sector.
The authors have conducted a qualitative case study on two reputed hospitals: one in Italy and another in Austria. They extend Meritum taxonomy of IC (Human Capital, Structural Capital and Relational Capital) by adding Connectivity Capital in the model. This new kind of capital refers to the linkages between various components of IC. Their study reports high relevance of Intellectual Capital for hospital services. In the case of the Austrian hospital, HC and RC are the main influencing components. For Italian hospital, SC and RC are the dominant influencers. The authors recommend use of metric and non-metric, both the measures to understand IC of such firms.

Peng, Pike and Roos (2007) have focussed their research on the Taiwanese Healthcare sector. The authors have attempted to identify the components of Intellectual Capital and its significance. The authors have also proposed to identify the major performance indicators for healthcare firms. Among elements of IC, Human Capital has been found to be most influencing, followed by Healthcare Services and Quality Capital, two sub-elements of Organizational Capital. Among performance indicators, Operation Efficiency is of somewhat higher relevance followed by Cost Control and Income & Growth.

Yang and Lin (2009) have studied the relationship between Human Resource (HR) practices and performance of firms in Taiwanese Healthcare Industry. The authors presuppose mediating role of Intellectual Capital. In the process, they have used three components of IC – Human Capital, Relational Capital and Organizational Capital, to assess the effect of HR practices on organizational performance. The hypothesis is that higher the level of IC in a firm, better will be its performance. The authors have employed questionnaire survey method on all the hospitals of Taiwan. Structural Equation Modelling has been applied on the data collected for dependent, independent
and mediating variables. Their study confirms the mediating role of IC in the entire gamut of HR practices and performance of firms.

Jirawuttinunt and Janepuengporn (2012) have investigated the association between Intellectual Capital orientation and business performance of medical services in Thailand. 102 private hospitals have been selected for this research. The authors report that HC, SC and RC significantly influence the performance of these hospitals. The researchers have applied survey questionnaire and have used Knowledge Management Effectiveness and Organizational Innovation as mediating variables. To sum it up, the authors find positive association between components of IC and the two mediating variables as well as the dependent variable i.e. sustainable business performance. Among the three components of IC, Human Capital has the most pronounced effect on the two mediators (KM Effectiveness and Organizational Innovation) thereby impacting business performance in a significant way.

Santos-Rodrigues et al. (2013) describe hospitals as complex organizations which deal with diversities arising from technologies, cultures and professional expertise of various departments. They have explored the relationship between Intellectual Capital components and Innovativeness of firms. Their case study is based on a public hospital in Portugal. The authors have used survey method and have captured HC, SC and RC through different items. Their work reports that HC and SC impact Innovation Creation – one of the dependent variables. In comparison, RC is more effective because it impacts Innovation Creation and Adoption, both. The authors, thus, contend that all the three components (HC, SC and RC) are related to Innovation.

Veltri et al. (2011) have focussed their research on the reporting of Intellectual Capital in healthcare organizations. Their work is based on the IC reporting of Centre for
Molecular Medicine (CMM), a well reputed healthcare firm in Sweden. CMM is widely regarded for its Intellectual Capital reports. According to the authors, healthcare has significant role in society. These firms are characterized by superior technical and professional skills which are very much required for desired delivery of services. This notwithstanding, given the amount of money involved, especially for publicly funded firms, it makes sense to measure and report IC of healthcare firms.

Carlucci and Schiuma (2012) have conducted action research on Organizational Climate and Intellectual Capital of a reputed hospital in Italy. They opine that healthcare is knowledge intensive sector in which intangibles have high significance. Akdere (2009) uses survey method on 69 healthcare firms of United States to study the relationship between HR practices and firm performance. The researcher finds that when a firm implements good HR practices, intangible aspects such as employee satisfaction and customer satisfaction are found to be positively related with firm’s profitability.

Ferreira et al. (2010) acknowledge the complexity of healthcare systems and the significant role of Intellectual Capital and Knowledge Management in such organizations. According to the authors, IC is a resource used to generate organizational knowledge. Varol (2011) has studied the process of financial turnaround of a hospital in Turkey. The author is of the opinion that continuous interface between various sub-systems of a hospital leads to complexity of such firms.

Berman (1998) has conducted research on private healthcare in India. The author finds failure of the public healthcare system as the basic reason for wide spread dominance of private medical practitioners. The author suggests judicious use of
private healthcare along with public healthcare services with improved regulatory norms for private medical practitioners.

Yip and Mahal (2008) have conducted a comparative study on healthcare systems of India and China. In their study, the authors report that owing to limited support by Indian government for public healthcare services, private players have entered to fill in the huge gap. However, this private healthcare market remains largely unregulated. Thus, out-of-pocket spending has gone up leading to high healthcare inflation. Since the percentage of aging population and instances of non-communicable diseases are rising, India faces problems. As a remedy, the authors suggest that healthcare insurance coverage should increase. They recommend higher public spending on medical services, better delivery of these services and stronger regulations for private medical practitioners.

DeCosta and Diwan (2007) have conducted a survey research on medical services providers in Madhya Pradesh, a large province in central India. They report that private healthcare providers have come up to fill the gap presented by public healthcare system. However, majority of qualified medical practitioners are located in urban areas. Consequently, rural population, which is roughly thrice the urban populace, is left to be treated by semi-qualified medical practitioners. Proliferation of private healthcare has led to higher treatment cost which is a financial burden, especially for the poor.

2.9. Intellectual Capital – Research in India

The concepts of Knowledge Management and Intellectual Capital began taking shape in the late 80’s and early 90’s. Over years, scholars in India have also contributed
towards the richness of these knowledge domains. One of the initial work has been
done by Thaker (2001) who has applied Knowledge Capital method to capture the
value of tangible as well as intangible assets of companies in India. The author
advocates creation and conservation of knowledge capital for sustainable success of
an enterprise. Similar observations have been made by Swamy (2004) and Rao (2009)
who suggest that companies should pay adequate attention towards their intangibles to
succeed in the knowledge economy.

Apart from stressing on the growing importance of intangible assets, scholars have
also reflected upon various similar concepts such as: Human Capital Management
(Choudhury and Mishra, 2010), Strategic environment & IC (Deol, 2009), Innovation
Management (Narvekar and Jain, 2006), Measurement of IC (Bharthesh and
Bandyopadhyay, 2005; Jhunjhunwala, 2009; Kannan and Aulbur, 2004), IC reporting
and disclosure (B. Kamath, 2008; Bhasin, 2011; Singh and Kansal, 2011) and IC &
Performance of firms (Choudhury, 2010; Kamath, 2008; Pal and Soriya, 2012; etc.).

To study the effect of Intellectual Capital on performance of companies, scholars have
generally used the VAIC™ model. Knowledge-intensive industries like Information
Technology, Pharmaceutical and Banking are the preferred choice of the researchers.
In congruence with the studies conducted in foreign countries, researches in India
have also yielded mixed results on the nature and strength of relationship between
VAIC™ and organizational performance. Table – A2 presents an indicative list of
such research studies.