International Journal of Business and Technopreneurship
Volume 1, Issue 3, October 2011[399-422]

Company Size: Does Intellectual Capital Differ?

Md. Abul Kalam Azad[1] and Md. Shariful Haquee[2]

ABSTRACT

This paper aims to find out the relationship between the company size and its intellectual capital. Few variables such as the number of employees, annual turnover and most importantly total asset have been predetermined to specify the size of the company. Ten small and ten big UK based companies using the purposive sampling have been taken as samples. For calculation and analysis the linear regression has been run using an online resource viz. www.fame.com. Final outcome of the study shows that the IC tends to equal contribution in market value of both the Big and Small companies.In some cases IC works more for the small companies.

Keywords: Intellectual capital, company size, annual turnover

1. INTRODUCTION

When identifying what makes a triumphant business, there seems to be some allowance for the more powerful. Guthrie (2001) stumbled on management issues that are not only interested in calculating tangible assets of a company. Rather, they have higher concern about identifying and managing company's intangible assets and Intellectual Capital (IC). Montequin et. al. (2006) found the initial action to change a common company into a knowledge company, to identify the inherent knowledge of the firm, which is termed as Intellectual Capital. As a result, both intangible asset and intellectual capital are taking into consideration in the evaluation of a business performance, and the performences are compared with each other

In oppose to above, Mouritsen (2004) stated that the measurement of intellectual capital is of zero value if it is only for theoretical purposes. He also suggested in implementing measurement techniques into company operation, to achieve perfection. Technically, Intellectual Capital by all definitions is almost the same; asset, other than intangible asset has no physical existence aaccording to Bontis

[1] MD. ABUL KALAM AZAD, Department of Business Administration, International Islamic University Chittagong, Dhaka, azadiiuc@gmail.com.
[2] MD. SHARIFUL HAQUE, Department of Business Administration, International Islamic University Chittagong, Dhaka, iiucmba@gmail.com.

N. (1999), Freedman(2004) and Buday, Thiel, & Buddenbaum (2008). However, a proper identification procedure of internal knowledge of a company has not yet realized and still in such a long way of development, such as how much Intellectual Capital it holds or either which is better than another company. As the valued work of Montequin, et al. (2006) suggested that the concept of Knowledge Management (KM) and intellectual capital have developed around large enterprises, mainly related to the financial sector. Though, some other authors like Mouritsen (2004) identifies IT sector as the main source of Intellectual capital such as patent capital or innovation capital.

In this study, a close look will be taken upon creation, development, maintenance and finally measurement of knowledge within any company. A brief discussion will also be taken place to describe the way to proper knowledge management, and eventually Intellectual Capital measurement. This paper will focus on highlighting appropriate factors, and re-evaluating the level of judgement in order to find out whether intellectual capital is dependent on the size of the company. The ultimate objective of this study is to identify the factors that determine the level of Intellectual capital for any business entity.

The fissure between a firm's market value and the value of its physical assets has been amplified ominously over the last decades Brinker (2000). More elaborate and specific result can be highlighted from the valued work of Bryan (1997); Mouritsen (2004) as they mentioned market-to-book ratio of United State firms was roughly become 2 to 1 between 1945 and 1990. One observation of Lester (1996) suggested that crudely 40 per cent of medium enterprise's market value were missing from the balance sheet. A more advance review of Morgan Stanley's World Index highlighted recently as the average market value of companies typically ranges from two to seven times of book value Brinker (2000).

One useful experience from the capital market would be helpful to understand the above highlighting statements. Microsoft's stock price rocketed $100 per share in one day when it released its operating software namely Windows 95. As a result, Microsoft became more valuable than Boeing overnight.

To make above discussion livelier, another contemporary example may be considered. In 1995 Netscape went public with its fifty employees worth of $17 million. Just after one year it touched $3 billion in capital market. Interestingly, investors certainly did not buy its tangible assets with that price or even the inventory software. In fact, investors only concentrated on the group of people who built Netscape- their talent, creativity, initiative quality, thought and skills. Investors also concentrate on the future growth of this company in comparing its past years performances and market response. In short, they invested such enormous amount of money to buy Intellectual Capital of that company. There

are many similar examples available in everyday market performance Buday, Thiel, & Buddenbaum (2008).

1.1 Objectives of the Study

The core intention of this study is to identify the relationship of IC of a company with its size based on number of employee, asset value, and profitability of the relevant company. This study also aims:

- To identify the nature and creation of IC;
- To identify the development and growth of IC;
- To measure IC of a company using its different assumed factors;
- To analyze the connection of IC with the business activity; and
- To furnish suggestions for the concerned authority in an effective creation and development of IC in a company.

1.2 Significance of the study

A recent survey of Bloom Group has produced stunning report to demonstrate present scenario of IC after analysing 179 professional service firms. Their valued work provides more interesting outcomes for future research. Though all researchers are accustomed with the initial idea of IC which is an inherent asset produced and maintained in big firms as such financial institution, IT sector or others Lester (1996). According to Buday, Thiel, & Buddenbaum (2008) small and medium firms are clearer toward their objectives. According to the survey of Bloom group, 'Attaining through Leadership', the respondent's confidence in IC is at the scale of 5, where 1 is less successful state and 5 is mostly successful.
The survey covered a range of professional firms: consulting, IT services, law, accounting, training and development, research and others. Some 25% had annual income of more than $1 billion, 35% had fewer than $25 million, 18% had $25 -$100 million, and 22% had $101- $1 billion. According to Buday, Thiel, & Buddenbaum (2008) Bloom survey presented 81% of the big firms (in terms of net income) can reach to their target level of success to develop IC compare to only 10% of the smaller firms.

Buday, Thiel, & Buddenbaum (2008) suggested that a substantial percentage of smaller firms have superior IC than remarked by the big firms. Numerically, around 50% of the small firms with net income of less than $25 million said that their IC is stronger while only about 25% of the company with $1 billion of net profit said the same.

Freedman (2004) disagreed with the professional talk of top service firms in UK as they believe, IC creation and management is far reach for the small and medium size of firms and financially and technically possible for the big organizations at long run. He also disagreed with the concept of creation IC

literally only possible in Technological sector. According to Brinker (2000), the same scenario very well in the way of showing top ten list of world companies before mid of 19th century and at the end. According to him, before information age mostly natural resource companies denominated the world business. However, it changed. Now a days mostly IT sector, service sector and companies strong KM show up in top chart. Supporting the same a resourceful study of Freedman (2004) agrees IC has not only existed in IT rather it associated with proper KM, training, development internal knowledge, staff, utility and proper safeguard of existing IC.

2. METHODOLOGY

Literally, by nature of this paper, it is full of empirical study of existing data. According to the conceptual framework, at the first phase of this study a threat beaten discussion will take place to establish strong background of IC. To fulfil objective of comparison between two groups of companies, sample size is important. Considering time limit and available resources, 10 companies have been selected in the group of big companies. Now, to be realistic and practical, few variables have predetermined to separate them. First of all, number of employees, annual turnover and most importantly total asset.

For the big companies, minimum number of employee have anticipated as 1000, turnover should maximum £500 million and total asset is maximum £5000 million have fixed. Logically, a company with more than 1000 employee is either labour oriented or very large organization with lots of brunches. In either ways, number of employees is a great factor behind be a big company. Regarding turnover, 500 million is handsome prediction. Now, fact behind deciding total asset figure, £5000 million is big enough.

Predictions behind the big company selection has established by using www.fame.com database used by most educational institutions and companies where millions of UK companies are listed. According to the website, 2188 listed public company's information available in the data bank. In connection to this, trial and error has performed to find big companies. A good combination has developed after finding that among the 2188 companies only 38 companies have more than 1000 employees, around 29 companies are doing turnover of £500 million annually. Finally and most importantly, only 21 companies have more than 5000 million of total asset in their business. In combination of these three characteristics, FAME supports top ten companies which have been selected for this study to be considered as big company group.

In contrast of the big companies, sample sizes of small companies have been selected with reference to a few variables. Likewise, maximum numbers of employees have assumed 500, in terms of turnover, it assumed as £5million and

total assets have been predicted as £50 million. At the same process of trial and error practice, top ten companies have been selected for the sample group of small companies. After selecting the sample groups, the most has been given to evaluate the states and positions of two different groups. This task is to build foundation to say how big and small companies create value for their company.

Last phase of analysis have been done in determining the companies policy that have been used to create value for their company to compare the differences between book value and market value of a firm and look forward to bind the relation with any or more of the theories cited from the literature review. In order to do this, company variables may need to be analysed in comparison with profit margin of the company and other financial performance index. A deeper look will be observing factorial movement of company market index with each other and with the company itself.

2.1 Background of the study

This chapter summarises a condensed table that guide us to develop a strong platform to mature and sum up core inspiration for this study. Literature review table shown below;

Table 1: Literature review table and development of theory of Intellectual Capital Measurement

Period	Author	Dependent Variable	Independent Variable	Method Used	Theory development	Measure +ve/-Ve
1992	Kaplan, R., & Norton, D.	Turnover and Gearing ratio	Intangible	**Balance Scorecard;** Author technically proposed to evaluate business performance assuming a balance scorecard as standard. The study has taken 56 companies for the study.	Harvard Business School introduce it using Skandia in practice. It offers three additional components as customer, process and growth as apparatuses	+ve
1996	Brooking, A.	Employee	Intellectual Capital	**Relative Value;** Relative study always measured a situation assuming others as variable. Author used Skandia insurance performance and theory as model for assuming relative value.	This approach has been supported by Bob Buckman (BuckmanLabrotaries) and Skandia Insurance. In this approach	+ve

					growth is not a qualitative approach rather its ultimate goal	
1997	Stewart, K	Gearing ratio	Intangible asset	**Competency Model;** Same to subsystem performance and slightly improved study has done by the author taking 42 companies into account.	Generating dollar denominated value of IC by calculating successful employees and market value of its output	+ve
1997	Sveiby, C		Intellectual Capital	**Business Worth;** Ignoring market cannot be accepted and taking into this account author for the first time tried to inform the influence of market information to the intellectual capital position of a firm. According to author, market has significant influence to IC and some times which is unpredictable.	It is one of the classic approaches to measure IC of a firm (Suciu, 2002). It depends upon understanding of three basic questions. First, what happen if the firm disappear all in a sudden? Second, What happen if all components become double next day? And finally, change in value with change of information after a regular time line	+ve
2000	Brinker,B.	Market information	Market price of share	**Business Process:** similar to market worth and influence of market information have taken into consideration of 29 companies made this effort successful.	It is kind of general use of sense that how any information may enhance market by useful information for instance auditing information, production etc	+ve
2001	Guthrie, J.	Employee and Tangibles	Intangible	**Human and Structural Capital:** Among 57 companies, author has found significant relation between number of employee and tangibles	Human capital implies strength of the organization in terms of confidence where	+ve

				to the development of intangibles.	structural capital supports to achieve the specified goal	
2003	Youngman, R.	Brand	Intellectual Capital	**Brand Equity:** This study only focuses on market performance and positioning through branding of a company. Author has taken 72 companies for the study.	It partially describes capacity of a brand image to create market response in terms of pricing, customer feedback etc.	+ve
2004	Mouritsen, J.	Tangible	Intellectual Capital	**Return on Asset:** Simple mathematic has implied in this study to recognize IC through tangible assets.	An advanced method for IC calculation, Return on Asset describes the difference between any firms profitability power apart from its tangible asset	+ve
2010	Lee, L, L& Guthrie, J	Firm's performanc e through profitability	Intellectual Capital	**Computer assisted Content Analysis (CA)** over 156 firms of global information technology industry	The Organization for Economic Cooperation and Development (OECD) conducted a survey of 1800companies , on their uses of Intellectual Capital; in organization (structure), in business relations (to customers, and to stakeholders), and with employee (competence). Results of the survey showed (i) the extent that companies have adopted Intellectual Capital, and (ii) how many companies	+ve

					have exerted effort to fit Intellectual Capital within traditional accounting and in management reporting.	

Source: (Brookinng, 1996; Edvinsson & Malone, 1997; Stewart, 1997; Sveiby, 1997; Brinker, 2000; Suciu, 2002; Lee & Guthrie, 2010)

Main focus of table 1 is solely to identify successive factors that may inspire the level of IC among the business industries especially in term of size. Inspiration of such study came across with reference of previous valued work of Brinker (2000); Guthrie, (2001); Lee & Guthrie (2010); Freedman (2004) and many more. In order to develop this study more suitable and logical we need to classify factors that will describe and categorise business into big, medium and small size.

3. ANALYSIS

"IC is not something identifiable and visible" said by Edvinsson & Malone (1997). To move forward in connection to find out level of IC of a firm, we have to assess its quantitative value of tangible asset, organizational structure and human resources and then compare with existing market value Brooking (1996); Edvinsson & Malone (1997); Kanevsky & Housel (1998); Andriessen (2004); Marr (2005).

Since core objective of this study is to develop an idea regarding IC which supposes to compare distinctive level of IC in respect of company size, we have grouped two distinctive lists of UK companies in terms of number of employee, Total Asset and performance.

At the first phase, this study has selected ten companies which are being grouped as big companies. The group can be specified through three basic reasons; Number of employee, Total tangible asset and turnover.

Table 2: Financial figure of Top ten UK companies

Company Name	Turnover th GBP Last avail yr	Turnover th GBP Yr-1	Turnover th GBP Yr-1	Profit (Loss) before Taxation th GBP Last avail yr	Profit (Loss) before Taxation th GBP Yr-1	Profit (Loss) before Taxation th GBP Yr-2	Total Assets th GBP Last avail Yr	Total Assets th GBP Yr-1	Total Assets th GBP Yr-2	Number of Employees Last avail Yr	Number of Employees Yr-1	Number of Employees Yr-2
ROYAL DUTCH SHELL PLC	176,561,000	316,046,000	178,525,000	13,016,000	35,041,000	25,378,000	174,730,000	190,446,000	132,426,000	101,000	102,000	104,000
BP P.L.C	152,417,000	253,088,000	146,238,000	15,558,000	23,639,000	15,862,000	145,259,000	156,175,000	113,986,000	80,300	95,700	97,600
VODAFONE GROUP PUBLIC LIMITED COMPONY	44,472,000	41,017,000	35,478,000	8,674,000	4,189,000	9,001,000	158,951,000	152,691,000	127,720,000	84,990	79,097	72,375
LEGEL & GENERAL PLC	43,790,000	-31,644,000	18.202,000	1,239,000	-2,153,000	795,000	297,411,000	256,898,000	281,561,000	9,324	9,777	10,067
AVIVA PLC	34,690,000	34,642,000	29,312,000	2,022,000	-2,368,000	1,857,000	354,404,000	354,562,000	319,720,000	49,182	54,758	57,011
PRUDENTIAL PUBLIC LIMITED COMPONY	20,2999,000	18,789,000	18,1888,000	1,564,000	-2,074,000	1,185,000	227,754,000	215,542,000	219,744,000	27,389	29,683	49,616
STANDARD LIFE PLC	17,435,000	-15,590,000	10,133,000	419,000	-476,000	620,000	146,613,000	136,985,000	143,980,000	9,752	9,959	9,998
RISH LIFE & PERMENENT PUBLIC LIMITED COMPONY	8,719,837	1,132,327		60,143	350,500	295,628	70,977,797	58,829,545	51,038,093	5,200		
OLD MUTUAL PUBLIC LIMITED COMPONY	3,820,000	5,156,000	4,941,000	247,000	595,000	1,668,000	163,806,000	145,926,000	142,734,000	53,706	58,546	54,630
CAP PLC	1,605,000	1,601,000	1,304.000	247,000	281,000	275,000	62,361,000	33,840,000	39,478,000	4,502	4,232	3,673

Source: www.fame.bvdep.com, cited on August 13, 2010

Above table2 is a snapshot of top ten UK based companies with more than 3000 employees and total asset is also more than £50 million. They also are common in terms of higher profit margin. In the list, first place has taken by Royal Dutch Shell PLC followed by BP PLC, Vodapone, Legal and General group, Aviva PLC, prudential public limited company, Standard life PLC, Irish Life, Old Mutual Public Limited company and last place has occupied by ICAP PLC.

Table 3: Liners regression of big companies with Tangible asset and Profit Margin

Dependent variable : Profit Margin - 2009

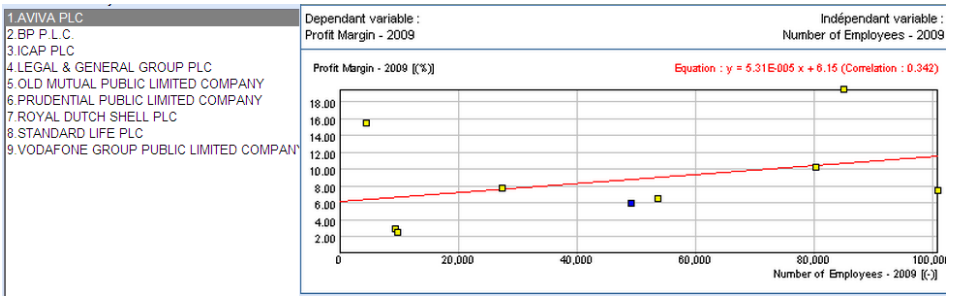
Independent variable : Net Tangible Assets (Liab.) - 2009

Equation : y = -2.81E-011 x + 10.9 (Correlation : -0.464)

Company name	Indep. variable th GBP	Dependent variable %	
		real value	calculated
AVIVA PLC	13,896,000	5.83	10.47
BP P.L.C.	96,037,000	10.21	8.16
ICAP PLC	309,000	15.39	10.85
LEGAL & GENERAL GROUP PLC	286,024,000	2.83	2.82
OLD MUTUAL PUBLIC LIMITED COMPANY	6,720,000	6.47	10.67
PRUDENTIAL PUBLIC LIMITED COMPANY	5,229,000	7.70	10.71
ROYAL DUTCH SHELL PLC	118,909,000	7.37	7.52
STANDARD LIFE PLC	131,198,000	2.40	7.17
VODAFONE GROUP PUBLIC LIMITED COMPANY	54,077,000	19.50	9.34
AVERAGE	79,155,444	8.63	
MEDIAN	54,077,000	7.37	
STANDARD DEVIATION	87,676,715	5.31	

Source: www.fame.bvdep.com, cited on August 13, 2010

Table3 displays the calculation of ten big companies' simple linear regression which identifies average, median and standard deviation of company performance. Table, also identifies ranking of ten big companies where Aviva PLC stood first and followed by BP PLC, ICAP PLC, Legal and General group PLC, Old mutual public, Prudential public, Royal dutch, Standard life and finally Vodafone group. Identical result of this regression is a new list of big companies which is showing different findings in terms of performance. To be more specific through an example, Legal and General Group PLC has highest tangible asset and its performance just on the line. Whereas those who have less tangible asset have more standard deviation that Legal and General group PLC. From this point of view, Asset has positive relation to generate profit. According to (Edvinsson & Malone, 1997) total tangible asset has significant signalling power to market too.



Source: www.fame.bvdep.com, cited on August 13, 2010

Chart 1: Liners regression of big companies with TangiTangible asset and Profit Margin

Graphical presentation of above table can be more general and understandable. From the table3 it is easily traceable that companies having more tangible asset can have lower standard deviation and perform better than others in terms of net operating profit. One of the technical understandings of above graph is out of ten companies; nine are shown in graph. Irish PLC is out of list. From chart specific outcome can be expressed in single statement which is majority of big companies are performing closer to expectation and they have less standard deviation.

Table 4: Linear regression of big companies with Number of Employee and Profit Margin

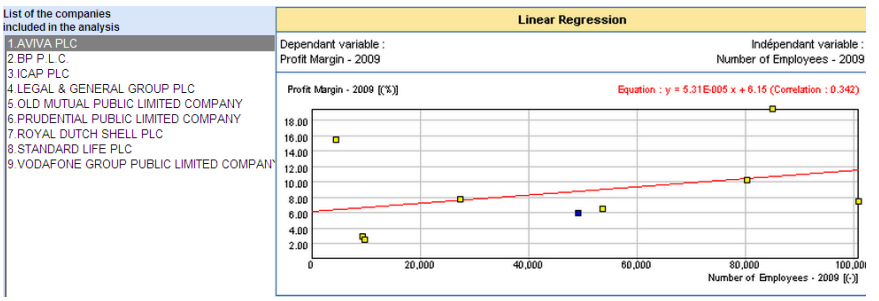
Dependent variable : Profit Margin - 2009 | Independent variable : Number of Employees - 2009

Equation : y = 5.31E-005 x + 6.15 (Correlation : 0.342)

Company name	Indep. variable	Dependent variable_%	
		real value	calculated
AVIVA PLC	49,182	5.83	8.77
BP P.L.C.	80,300	10.21	10.42
ICAP PLC	4,502	15.39	6.39
LEGAL & GENERAL GROUP PLC	9,324	2.83	6.65
OLD MUTUAL PUBLIC LIMITED COMPANY	53,706	6.47	9.01
PRUDENTIAL PUBLIC LIMITED COMPANY	27,389	7.70	7.61
ROYAL DUTCH SHELL PLC	101,000	7.37	11.52
STANDARD LIFE PLC	9,752	2.40	6.67
VODAFONE GROUP PUBLIC LIMITED COMPANY	84,990	19.50	10.67
AVERAGE	46,683	8.63	
MEDIAN	49,182	7.37	
STANDARD DEVIATION	34,180	5.31	

Source: www.fame.bvdep.com, cited on August 13, 2010

A farther study of previous approach has been done in connection to find whether big companies are superior to small companies in terms of IC. The linear regression was used where number of employee has countered with profit margin of that company as showed in table4. Average number of employee has counted close to half of million, median of sample group is almost the same but standard deviation is higher than expected. Again, net profit margin looks very handsome and median also supports that most big companies have in average 8% of net profit margin. Standard deviation has big value, may be it is the outcome of extreme value of sample size.



Source: www.fame.bvdep.com, cited on August 13, 2010

Chart 2: Liners regression of big companies with Number of Employees and Profit Margin

Above chart2 seems almost same with previous one. Graphical positioning reveals that most of the big companies are doing well and number of employees affects their profit margin positively.

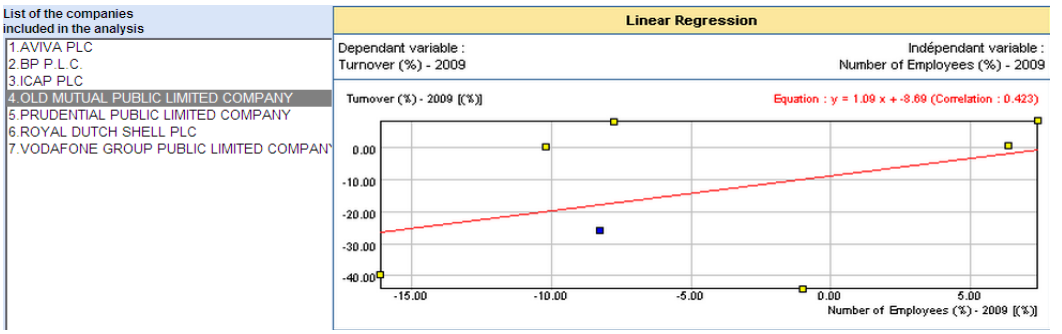
Table 5: Linear Regression of big companies with number of employee turnover and company turnover

Dependent variable : Turnover (%) - 2009
Independent variable : Number of Employees (%) - 2009
Equation : y = 1.09 x + -8.69 (Correlation : 0.423)

Company name	Indep. variable %	Dependent variable %	
		real value	calculated
AVIVA PLC	-10.18	0.14	-19.82
BP P.L.C.	-16.09	-39.78	-26.28
ICAP PLC	6.38	0.25	-1.71
OLD MUTUAL PUBLIC LIMITED COMPANY	-8.27	-25.91	-17.73
PRUDENTIAL PUBLIC LIMITED COMPANY	-7.73	8.04	-17.14
ROYAL DUTCH SHELL PLC	-0.98	-44.13	-9.76
VODAFONE GROUP PUBLIC LIMITED COMPANY	7.45	8.42	-0.54
AVERAGE	-4.20	-13.28	
MEDIAN	-7.73	0.14	
STANDARD DEVIATION	8.14	21.05	

Source: www.fame.bvdep.com, cited on August 13, 2010

Employee turnover has negative relation with company performance. Above table5 is the calculation of average, median and Standard deviation of big companies in terms of their employee turnover and its effect on company turnover. Table5 reveals that employee turnover is highly toxic to company performance. From the calculation average result in both the cases come negative and median is changed a bit. A high value if standard deviation indicates that total composition of this study is true, which is employee turnover affect company performance negatively.



Source: www.fame.bvdep.com, cited on August 13, 2010

Chart 3: Linear regression of employee turnover and company turnover of big companies

A negative relation between employee turnover and sales turnover is displayed in chart3. The chart derives two important facts in this study. First of all, employee turnover means low satisfaction and most importantly drainage of system and strategy from one company to another. As a result, in competition, firm may lose own segment or may other competitor overcome the segment with the information employee carried with. Important understanding from the chart is only two companies have performed close to expectation where as other seems far from the expectation.

From definition, we all know that a firm either labour based or technology based. Among the ten company we have selected earlier, majority are seems knowledge based rather labour based. Royal Dutch, BP PLC and Vodaphone are three labour based firm and they have more than 80, 000 employees of their own. However, from the above discussion shows these three companies are not highest profit generating firm. So a contradictory result just pop up which is labour is not any precondition for generating profit. According to Andriessen (2004); Brooking & J (1996) not high volume of labour, rather employee management is the way to profitability. Bar diagram shows that average and median is more than 30,000 of employees. To judge this more carefully, extreme values of the sample size lift the values. That's being proved by high volume of standard deviation.

The second phase of this study 10 companies categorized as small companies have been selected with less than 500 employees who have less than £50 million of total asset and £5 million of turnover. An over view of this sample size has been shown below with different financial position aas in table 6.

Table 6: Financial information of small companies

Company Name	Turnover th GBP Last avail yr	Turnover th GBP Yr-1	Turnover th GBP Yr-1	Profit (Loss) before Taxation th GBP Last avail yr	Profit (Loss) before Taxation th GBP Yr-1	Profit (Loss) before Taxation th GBP Yr-2	Total Assets th GBP Last avail Yr	Total Assets th GBP Yr-1	Total Assets th GBP Yr-2	Number of Employees Last avail Yr	Number of Employees Yr-1	Number of Employees Yr-2
DANA PETROLEUM PUBLIC LIMITED COMPONY	397,267	517,979	311,499	56,429	191,406	143,271	1,358,005	1,207,792	1,018,758	135	120	67
BRITISH LAND COMPONY PUBLIC LIMITED COMPONY (TH)	394,000	554,000	645,000	1,128,000	-3,928,000	-1,609,000	6,398,000	7,578,000	12,648,000	443	728	732
SEGRO PUBLIC LIMITED COMPONY	365,500	414,700	342,800	-248,100	-939,200	-246,500	5,519,300	5,113,100	5,624,500	318	348	454
HAMMERSON PLC	351,500	344,200	311,500	-453,100	-1,161,500	110,400	5,666,400	6,896,200	7,622,300	332	277	261
NOVAE GROUP PLC	303,600	345,700	302,600	4,200	40,200	41,000	1,688,200	1,754,300	1,513,300	225	219	213
GRAINGER PLC	302,200	246,200	220,300	-170,000	-112,100	77,500	1,949,200	2,113,500	1,992,000	274	300	247
INTERMEDIATE CAPITAL GROUP PLC	274,100	303,700	236,900	105,800	-66,700	229,500	2,905,500	3,062,200	2,556,200	126	141	119
DERWENT LONDON PLC	125,300	120,400	113,700	-34,900	-608,500	-99,800	2,001,900	2,181,100	2,772,500	68	60	56
CHESNARA PLC	100,105		103,554	44,741	22,727	27,720	2,920,059	1,679,564	2,040,897	51	24	30
SHAFTESBURY PLC	67,800	65,359	62,423	-58,100	-22,901	124,176	1,230,400	1,222,794	1,419,007	19	20	19

Source: www.fame.bvdep.com, cited on August 13, 2010

Table 6 summarized that Dana Petroleum is on the top with only £.3 million of turnover and £1.3 million of total asset. Employee size of the company is only 135. The following companies are British Land company, Segro public Limited, Hammerson Public, Novae Group, Graninger, International Capital, Derwent, Cheenera and sheftesbury Ltd. The range of the employees in these firms from 19 to 545 and range of asset is from £60 million to £130 million

Table 7: Linear Regression of small companies' Tangible asset and Net profit margin

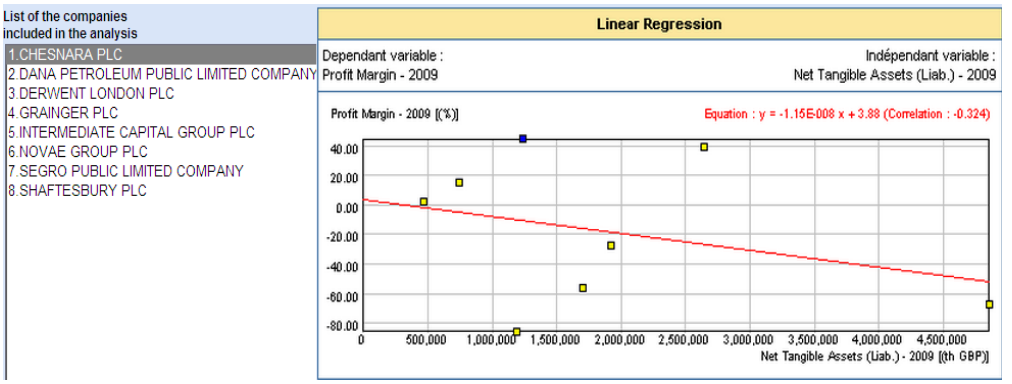
Dependent variable : Profit Margin - 2009
Independent variable : Net Tangible Assets (Liab.) - 2009
Equation : y = -1.15E-008 x + 3.88 (Correlation : -0.324)

Company name	Indep. variable th GBP	Dependent variable %	
		real value	calculated
CHESNARA PLC	1,239,292	44.69	-10.33
DANA PETROLEUM PUBLIC LIMITED COMPANY	747,811	14.20	-4.70
DERWENT LONDON PLC	1,929,800	-27.85	-18.26
GRAINGER PLC	1,711,400	-56.25	-15.75
INTERMEDIATE CAPITAL GROUP PLC	2,647,200	38.60	-26.48
NOVAE GROUP PLC	468,500	1.38	-1.49
SEGRO PUBLIC LIMITED COMPANY	4,868,400	-67.88	-51.97
SHAFTESBURY PLC	1,194,800	-85.69	-9.82
AVERAGE	1,850,900	-17.35	
MEDIAN	1,475,346	-13.23	
STANDARD DEVIATION	1,308,504	46.33	

Source: www.fame.bvdep.com, cited on August 13, 2010

Table 7 is showing linear regression of small companies where independent variable is net tangible asset and its relation has established with profit margin. Average profit margin of these companies is negative 17.35 where as for the big companies it was more than 20 in positive. Again, for small companies median is negative whereas comparing to big companies it was higher than 15. Standard deviation, so far is very high and close to 50.

From the above comparative discussion, it revealed that in terms of profitability big companies are more committed to ensuring profit and their risk is lower than small companies.



Source: www.fame.bvdep.com, cited on August 13, 2010

Chart 4: Leaner Regression chart of small companies with tangible asset and profit margin

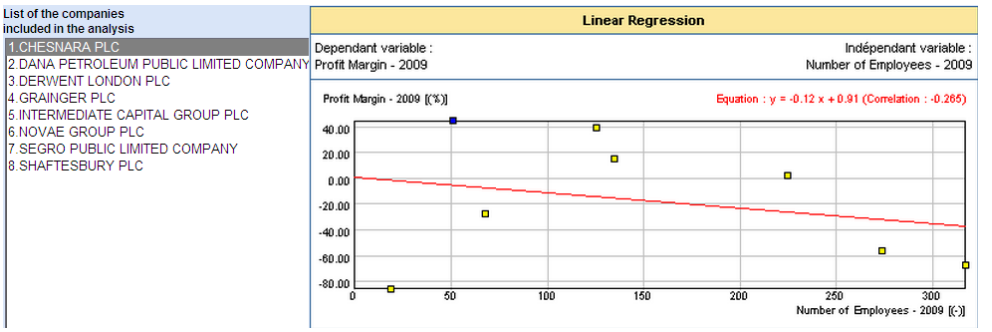
Above chart is the graphical presentation of linear regression. The chart has established a negative relation between profit margin and net tangible asset. However which is not in practically true. From the earlier discussion of this study we establish positive relation between these two. From assumption, it can be said that this result is outcome of few companies which unable to take all possible look of performance of small companies. Furthermore, here a hint of further study remains alive.

Table 8: Linear regression of small companies with number of employee and net profit margin

Dependent variable : Profit Margin - 2009			Independent variable : Number of Employees - 2009
Equation : y = -0.12 x + 0.91 (Correlation : -0.265)			
Company name	Indep. variable	Dependent variable_%	
		real value	calculated
CHESNARA PLC	51	44.69	-5.22
DANA PETROLEUM PUBLIC LIMITED COMPANY	135	14.20	-15.31
DERWENT LONDON PLC	68	-27.85	-7.26
GRAINGER PLC	274	-56.25	-32.01
INTERMEDIATE CAPITAL GROUP PLC	126	38.60	-14.23
NOVAE GROUP PLC	225	1.38	-26.12
SEGRO PUBLIC LIMITED COMPANY	318	-67.88	-37.29
SHAFTESBURY PLC	19	-85.69	-1.37
AVERAGE	152	-17.35	
MEDIAN	131	-13.23	
STANDARD DEVIATION	102	46.33	

Source: www.fame.bvdep.com, cited on August 13, 2010

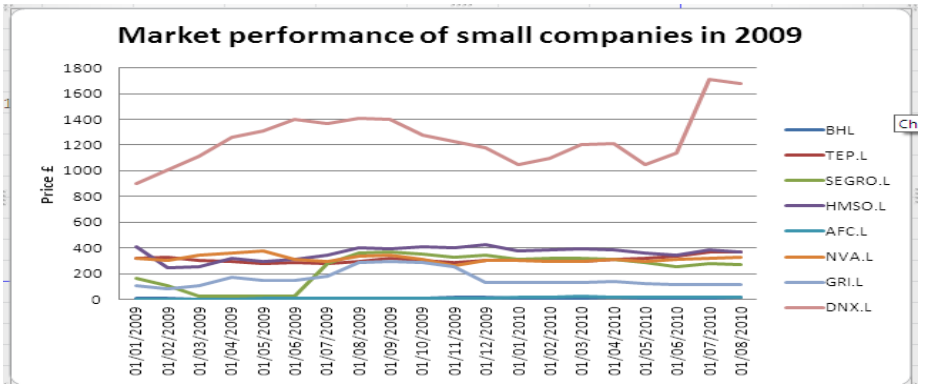
Likewise the previous table and chart of small companies, table 8 displays the relation between profit margin and number of employees. Average of this calculation is negative. Extreme value of small market size may consider as vital point. However, average of employee of these companies is only 152 where is median is lower than that. In total standard deviation are remarkably more than hundred which indicates, small companies are not properly decorated with skilled staff members and safer than big companies to identify.



Source: www.fame.bvdep.com, cited on August 13, 2010

Chart 5: Linear regression chart of number of employees with profit margin

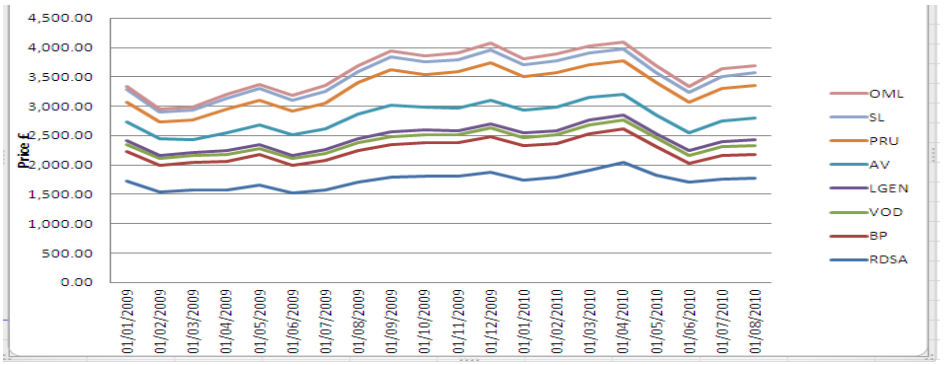
Above dramatic changes already identify few non positive signals of firm's profitability with number of employees. Graphical presentation of above char describes negative which of number of employees with profitability value. From the chart above sum up decision may be as the more the number of staff the lower the scale of profitability. As we all know staff is sometimes burden and some times more than what they are in reality Kanevsky & Housel (1998).



Source: Market price quoted from yahoo finance

Chart 6: Market performance of small companies

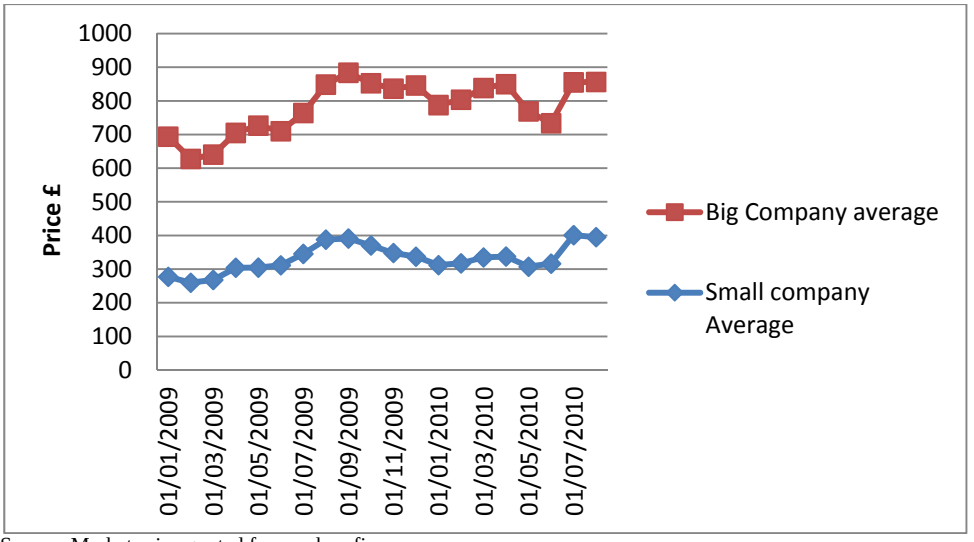
Above line chart of market performance of small companies indicates a major outcome of this study. Small firms have fewer market prices than big companies for few reasons Brooking & J (1996). But considerable fact is, movement of these companies in capital market has identified as unique. Starting from January, 2009 to till date has portrait a significant understanding that price is stable and steady. Over more than 17 market prices did not move unexpectedly.



Source: Market price quoted from yahoo finance

Chart 7: Market performance of big companies starting from January, 2009

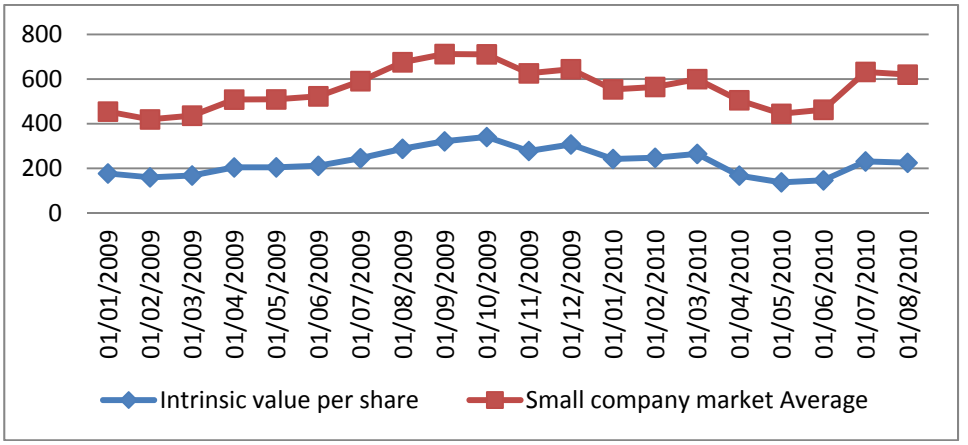
At the same connection, above line diagram is presenting market value and its movement of big company sample. Over last 19 months big companies are doing stable market performance. Movement among the prices is quite similar and in same length.



Source: Market price quoted from yahoo finance

Chart 8: Market Performance of Big and small company group

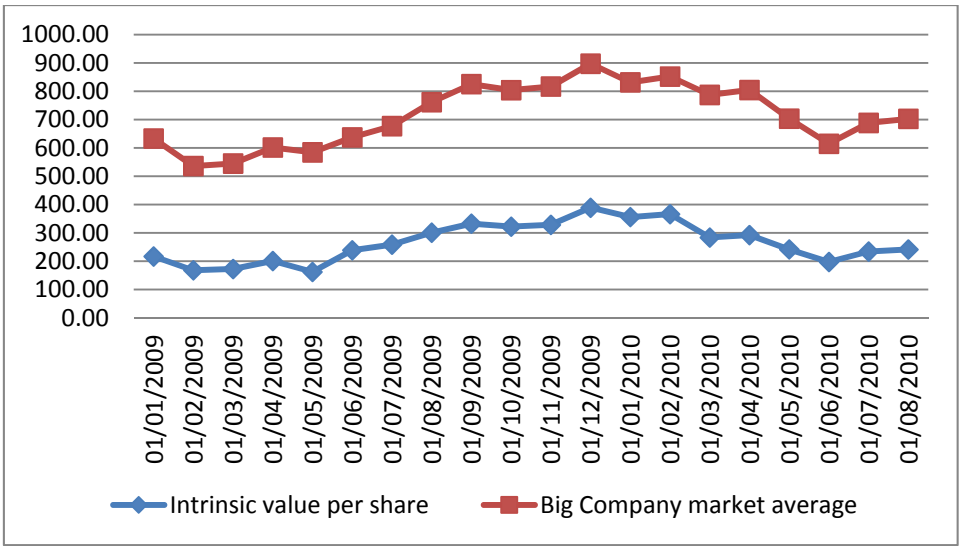
In connection to previous two charts, above chart has shown comparative market movement of big companies and small companies over the period. It is showing a positive movement with almost same phase in both the movement of two sample groups. Except a few changes, movement look pretty similar. One and most important hints which are big company performance are more in numeric figure than small companies. In last 19 months small company stock price increased only £100 where as in big companies, it increased around double.



Source: Market price quoted from yahoo finance

Chart 9: Value gap in market value with intrinsic value of big companies.

Above chart is the line graph presenting market confidence of the investors for small companies in relation with the intrinsic value of those companies. Book value per share and market value per share has a gap. Again the average among these values have manipulated from the extreme values. Along with the limitations, we can see from the chart that a gap of around 200GBP exists throughout the time frame.



Source: Price quoted from yahoo finance

Chart 10: Value gap in market value with intrinsic value of big companies.

In relation with the previous chart above chart is also presenting gap between the market value average and book value per share average of big companies. Surprisingly, Values have been manipulated with the lower and upper value of the sample group. However, an average gap of more than 350 GBP has found along with the graph. Above two charts may describe big companies have more market confidence, in other way big companies have more IC than small companies but to be more specific, it is not the truth. Before saying this, we also have to evaluate the asset investment for the big companies, the strategic performance of he big companies in relation with the small companies.

4. FINDINGS

Being practical and optimistic on above discussions and analysis, few things became almost crystal clear to us. Among the findings;

- At the first phase, study covered the importance of IC for both big and small firms. Details research review has established hard shell against the importance of IC for all firms irrespective of their size. Authors have identified positive correlation between IC and market value of a firm through lots of examples, events and through various model of IC calculation. The ultimate findings of this study which initially agree the association of IC and market price.
- A second and important finding of the study is IC measurement and development is not easy but not impossible. This paper suggests looking at the office to hunt talent both in management and labour so we can be cost effective or department potentials are in full capacity to generate economic cost effective profit.
- Final outcome of the study which supposed to be main objective solving for the topic, where independent variable is size of a firm and dependent variable has selected as such; market growth, market positioning and most importantly market response of IC. Study found that IC used to increase market value. For further study, analysis of above table shows with the increase of time and proportionate tangible asset, due to market performance. This very basic method of repair and calculation helps investors' to be more careful. This process will not stop and firm's ultimate flavour of success. This study has proved through the chart diagrams above is not other than hypnotising to realize market is very changing. So, to get rid of this basic and useless information, at the end of research this study found that, intellectual capital is quite optimisation for both the investors and managers. If a firm has failed to develop IC, it will surely fail to get market perfection and will incur potential loss.
- Last but not the least, break through findings of the study is the signal which identified big companies are cost effective in implementing IC in work to develop market value of a firm comparing to small companies. This basic finding is yet to go a long way experimenting with more variables and time frame. In total, this paper has successful to fulfil all of its objectives.

4.1 Research limitations

From definition, research needs to be carried out in limited space. Otherwise the objective of research may not get test of finishing line. A set of background helps a research to complete at the right direction. In

consequence to this theory this paper has designed in such way to treat it as first step to develop the idea of either IC differ with the size of the firm or not. This study will cover 10 companies as sample for both the big and small firms. However, more variables, such as life time, number of branches, shareholders proportion in the total liability might introduce. Regarding length of work, this paper has only considered secondary work to trace out relationship between company size and IC. In line with few other shortcomings of this study, it will allow further in depth study related to this area. An interdisciplinary work may facilitate future research to come up with more concentrate findings which will facilitate both the investors and managers to establish IC as a driven force to create firm's value.

4.2 Recommendations

From definition of IC, knowledge and perfection depend upon strategies Bryan (1997). This paper has discovered that knowledge of a company may affect IC of a firm rather than size of it. This paper might have covered more specific information if it could counter really small business entity like small chicken chips shop or corner shop.

Specific finding of this study is the anomalies in IC of different firms. Based on the size of the companies, it has categorised companies in two different groups. However, both of them not surely indicating high and low IC consequently. May be company size allow to managers for holding IC for a while but ultimately, how small companies may get rid of these threat? Answer is knowledge management which has discussed in the literature review. Strategies may categorised into three phase; identification, selection and trial and error processes of managing the possible and potential error.

To safeguard intellectual element, big companies usually have attending integrated protection or security systems to prevent drainage of valuable information and resources. This situation is more likely and realistic if we consider any IT industry for our example. For instance, if Microsoft Inc, does not invest higher amount to protect its invention and intellectual asset like research and programs, we will observe a devastating result in its capital market at the end of second day. In connection with this, big companies now a day's based on information technology rather than

labour or tangible asset Lee & Guthrie (2010). So, to save big companies form the damage of intellectual capital, security is important nowadays.

In contrast to this theory, let's shift our look to small companies. The considerable object as we can see is how small companies are handling IC of their firm. No matter how limited IC they have, every penny shall count to have strong IC another day. At the same direction, it is quite easy to pass the specific knowledge to its competitors. So, one can imagine the amount of fund a firm may use to protect its IC. But, since they have low turnover, they hardly afford expensive protection capacity for their position and business.

Now, look at the management capacity. From the basic information of Boedker, Mouritsen, & Guthrie (2008); Lee & Guthrie (2010), in small companies, employee turnover is higher than big companies proportionately. Why is that? One of the reasons may be as big companies have no intension to loss its valuable asset, especially the managers. They have invented different motivational techniques to keep their employees with them which in turn save them from having loss of IC. So, how small companies may have survived since tangible asset and turnover are less there. So, at the end of corner small companies also need to find and use some short of techniques to restore unique knowledge and knowhow of small companies to survive.

5. CONCLUSIONS

It is not obvious that the level of knowledge; IC of all big firms should be the same and as same as for small and medium companies. Rather, maybe there is a high possibility that small companies may have more IC than big ones. According to Brinker (2000); Guthrie (2001) and Youngman (2003) small companies have more specific and straight goal than big companies. The point which has been highlighted here so far is level of IC, management skill and performance may differ from companies to companies.

Big companies naturally do have high volume of turnover occupied with strong financial, strategic and structural framework for operation. In addition to this they may also have a good number of high skill managers who are leading the firm for further success. Beside all of these countable and tangible assets, a considerable and fundamental logic is to answer.

How much they have invested? In compare to small companies which is obviously many times higher. In contrast to above discussion, how the big companies come into market. Not using their asset value or high gearing ratio, not even with the brand value. As it is establish truth is these all takes long to be big companies. Then how this happen? Yes, throughout the whole paper the reasons have discussed. The core understanding of above work was the big ideas along with the strong business motive with sustainable and technical work environment which ensures working environment to convert small firms into giant business venture. Being honest, the key lies into ability to build confidence among the investors through a firm's objectives, goal and strategies. So, no matter how big the firm is or small, the fundamental of creation, nursing and development of IC is the idea, ability and environment of identifying, managing and developing philosophies to influence investors being confident to count in time of calculating IC for a firm.

6. REFERENCES

Andriessen, C. (2004). The intellectual capital of the European Union. Measuring the Lisbon agenda. Version, Centre for Research in Intellectual Capital, University of professional education de Baak - Management Centre VNO-NCW. Hollend.

Boedker, C., Mouritsen, J., & Guthrie, J. (2008). Enhanced Business Reporting; International Trade and Possible Policy Direction. *Journal of Human Resouce Costing and Accounting, 12*(1), 14-25.

Bontis, N. (1999). Managing organizational knowledge by diagnosing intellectual capital. *International Journal of Technology Management, 18*(5), 433.

Brinker, B. (2000). *Intellectual Capital: Tomorrow's Asset, Today's Challenge.* Retrieved July 09, 2010, from http://www.cpavision.org/.

Brooking, A. (1996). *Intellectual Capital: Core Assets for the Third Millennium Enterprise.* London: Thomson Business Press.

Brooking, A. (1996). *Intellectual Capital: Core Assets for the Third Millennium Enterprise.* London: Thomson Business Press.

Bryan, L. L. (1997, November 3). Stocks Overvalued? Not in the New Economy. *The Wall Street Journal*, A24.

Buday, B., Thiel, B., & Buddenbaum, S. (2008). *Survey Says: Strong Intellectual Capital Is The Key to Effective Professional Services Marketing.* New Yark: The Bloom Group 'Attaining Through Leadership'.

Edvinsson, L., & Malone, M. (1997). Intellectual Capital. *New York: HarperCollins,* p. 5.

Freedman, E. (2004, September 7). Knowledge Management: Not Just for Big Firms. *Law Technology News*.

Guthrie, J. (2001). The Management, Measurement and Reporting of Intellectual Capital. *JOurnal of Intellectual Capital, 2*(1), 27-41.

Kanevsky, V., & Housel, T. (1998). The learning-knowledge-value cycle. *Knowing in Firms: Understanding, Managing and Measuring.* London.

Kaplan, R., & Norton, D. (1992, January). The balanced scorecard measures that drive performance. *Harvard Business Review*.

Lee, L. L., & Guthrie, J. (2010). Visualising and Measuring Intellectual Capital in Capital Market: A Research Method. *Journal of Intellectual Capital, 11*(1), 4-22.

Lester, C. (1996). *Thurow, The future of Capitalism.* NewYork: William Morrow and Company Inc.

Marr, B. (2005). *Perspectives on Intellectual Capital – Interdisciplinary Insights into Management, Measurement and Reporting.* Boston, MA: Elsevier.

Montequin, V. R., Fernandez , F. O., Cabal, V. A., & Gutierrez, N. R. (2006). An Integrated Framework for Intellectual Capital Measurement and Knowledge Management Implementation in Small and Mediam- sized Enterprises. *Journal of Information Science, 6*(32;525).

Mouritsen, J. (2004). Measuring and Intervening: How do we Theorise Intellectual Capital Management? *Journal of Intellectual Capital, 5*(2), 257-67.

Stewart, T. (1997). Intellectual Capital: The New Wealth of Organizations. *Doubleday/Currency*. New York.

Suciu, M. C. (2002). Intangible Asset and Intellectual Capital; Key Success Factor for Romania's Convergence. *the Lisbon strategy, the Barcelona Summit.*

Sveiby, K. (1997). The New Organizational Wealth: Managing and Measuring Knowledge Based Assets. Berrett Koehler, San Francisco.

Youngman, R. (2003, March). Retrieved July 14, 2010, from http://www.euintangibles.net