The Intellectual Capital's Components/Details
Attributes and Firms Value

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ABSTRACT

The aim of this paper is to examine the Intellectual Capitals gathered from Data's life cycle stages of Tehran Stock Exchange list. This is the testing result of a hypothesis utilizing "multiple regression method" with no incremental information content for intellectual capital components companies, but the company's market value relative varies during different stages of their life cycle. So The I.C has the maximum information to make the decision for adolescence stage and subsequently minimum growth data stage & decline stage related for making decision plan. The research result shows the Intellectual Capital (I.C) can create valid data in relate to the Gap between companies Market value and Book value of the different life cycle values stages.
KEY WORDS: Intellectual capital, market value, human resources investment.

INTRODUCTION

As human society transforms from industrial to the information ages, the intellectual capital mind importance increases consequently. Such evolutionary transaction followed due to central revolution advances in technical and economical knowledge access's demands producing and applying knowledge as the central role to build, use and make wealth. One of the knowledge concentrated economy significant is the investment on the technical and communication information field. During industrial ages, the property, machinery equipment and raw material were considered as the worth value business's capital. While in information / technical information properly builds and using the intellectual capital is the evaluation for operating, profitable, progressing or failure of business measurement configuration (Sunnier and associates 2007).

Intellectual Capital among companies considers as a preference and business advantage. And in third millennium Intelligent, Capital is more important than physical and material and valued as more successful business. Focusing on Intellectual Capital for a knowledge Center Company in order to function more efficiently and effectively specified as a key to company's economy, progress & success (Namazi and Ebrahimi associates in Iran 2009).

According to bio-natural is life cycle understanding; (generate, growth, adolescence, ebb and death), factories life process also analysis as similar as the guideline to proceed achieving the proper goals (Liong Chiong and associate2008)

Acknowledging of company economy's statues help an accountant to have better evaluation of income and minimize spending orders accordingly (Haghighat and Ghorbani Associate; 2005).

It researches regarding the life cycle listed some variables such as Sales growing rate, shared benefit rate and pure profit investment expenses are introduced in order to determine the company life cycle(liang Chong & associates 2008).

Accounting conservative strategies stopping companies to reflect & focus on investing in intellectual capital in their annual budgets. This causes a gap between the company market value and company's book value. By considering and applying the importance of Intellectual Capital for company life cycle, it could pursue a large segment of company market value, and book value's gap has been taking care.

So in this research paper the effect of Intellectual Capital details on the market value in the company life cycle has been explained.

The Intellectual Capital Analysis

In 1969, the effect of "Intellectual Capital" presented by John Kings Galbrise as to explain and specified the company market and book values gap. Since beginning of research different definition has been offered for a general purpose of Intellectual Capital (Namazi & Ebrahimi associates 2008).

All definitions are based on the fact that; company Intellectual Capital, invisible assets, including knowledge (part of Human Capital), built assets, communication capital, organization capital, domestic and foreign investments (Bounties 1999) he believes

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I.C mean **using I.C** against **Information.** I.C. is a term to combining the market invisible (intangible) capital and human intelligence, human capital and base investment that the organization uses to restring its activities(Broking 1996).

Intellectual Capital consists of the portion of company's total assets that it depends on knowledge and the company which it owns. So; Intellectual Capital can consider I.C, and also it has been the result of its transition.(Anvari Rostami ;1995).

Intellectual Capital Divisions:
The Intellectual Capital Most common categories are designed as follows:
1) Relational Capital,
 2) Structural Capital
 3) Human Capital
Through these categories, the company's invisible capital is generated, exchanged, developed and evaluated.
 1) Relational Capital (R.C): including outdoor customer contact such as faithfulness, good reputation, having fair producer contact. These are detected via dealing (: buy & sell transaction) with customer (Malcolm 2002). Relational capital consists of licensing value (i.e. permissions to produce and sell). Contact to people & organization in relate to customer, Market share, keep or losing customer rate, and per customer volume, pure value (Merits 2001), **R.C.** specified the formal and informal relation between the company and outer beneficiaries and understand their thoughts about the company and exchanging their information. **R.C.** is important for an organization; having contact between a company and customer count a plus credit for a company value!
2) Structural Capital (S.R): It covers the entire capacities to find out the market demands. Cases such as legal invention pad and how to do special procedures and culture of work, are the working and acting process of **S.R.** which they are daily report and stays in the company S.R. reports book. And it belongs to the whole company (Merits: 2001). Reports could copy and share-study, make decision or act on it to improve the company productions (Chen & associate2004). **S.R** could consider the foundation of human capital supportive source and also conclude the entire sources such as the database, guiding book, methods, strategy, publishing, copy writes and procedures to increase company's income.
3) Human Capital (H.C) including all human (crews) skills, capabilities & specialties (Malcolm 2002). The first goal on H.C is creating the new new design in goods, new way in service & improve in the trading process (Merits: 2001) & (Russ & associates 1997) believing; **I.C's** employees should select via qualification, capabilities, views and fast mental judgment (Ghelich Lee and Moshbeki: 2006). The combination of highly manned power experience and skills could consider the soul and body of the Intellectual Capital source in a company. Stuart saying:"although employees are listed as the most capital of a company, but they are not owned by company and teaching (I.C) will be lose at the end of the day" (Stuart 1997).
These 3 parts of an Intellectual Capital have an opposite dependency. Intellectual Capital uses, cooperates, and unifies, equalize and manage the knowledge between them in order to offer the best company result.

Review researches feedback:
Some researcher based their study on the knowledge (Hoorni 1999, Rogers 2003 and Chen 2003) to evaluate their Capital Intellectual reports. And Kitsa in 2001 has researched about the relationship between known and Intellectual capital. Hunt based his research on knowledge and acknowledges achievement evaluation. Riahi in Iran in 2003 set his research on the relation between I.C and commercial companies' performances and Bounties and associates tried to express the effective rate of Intellectual Capital.
"Chiong Jo and associate 2008"has researched on Taiwan's info industrial technology between years 1998-2003. They study the effect of I.C. over the company market value during the life cycle(from high to low sale grow point).
The result on all research shows. Intellectual Capacity has most information in relate to making decision on down grading or failing (economy) situation following least info on growing and adolescence. In general, the research result shows Intellectual Capital providing valuable information that related to the gap between company's Market value and its list value (office or wanted or built value) which related to company's life cycle.Jorion & Talmer 1975 came to conclusion that company life cycle depend on its industrial characteristics. Therefore, during their study about accounting and company value, life cycle and technical categories are compared. Palick in 1998 said: the average Intellectual Capital income value & market value highly depended. Anvari & Rostami in 2003 following some definition about Intellectual Capital and its details suggested some methods to evaluate Intellectual Capital. They mentioned the relation between I.C and Tehran's (Iran) Stock market. Overhaul research result reports prove the importance of intellectual Capital, its value and roll by investors & its close relationship to the stock market in Tehran – Iran's Bonds. Dehdar 2007 comes to such as conclusion that higher evaluations based on saved cashed and accounting income and cash fellows and other committed contract is following the Company's Life Cycle.

Questions and thesis:
This report following two questions:
      1) Do the Intellectual Capital's components express the cause of the company's financial effective variables?
      2) Does such affect relate to company's Life Cycle effective?
Following thesis offered due to above issues:
      Theses1) I.C's components compare to company's Market Value is increasing (Incremental info. content):
      Theses1-1) Built Capital compare to Contacting (communication) Capital contents increasing information.
      Theses1-2) Built Capital compare to Companies Market Value contents shows increasing information.
      Theses1-3 Hunan's Capital (Resources): H.R compares to Market Value Contents shoes Increasing.
      Theses 2) Relative Information Contents in Intellectual Capital components compare with market
   Theses 2-1 Relative Information Contents capital compare with market value during growth And fall is different.
      Theses 2-2 Relative Information Contents of built capital in compare to market value during Company growth and fall is different.
      Theses 3-2 Relative Information Contents of Human capital (resources) compare to company Market value during company's growth and fall is different.

Research method recognitions:
    In This research tried to see-about the effect of addition Intellectual capital information over the increasing company's market value at the Tehran's bond (stock) market during different courses of growth, peak and dropping exchange trading process. Following (fellow-chart) Analyst schematic diagram shows theoradical research presentation design suggestions
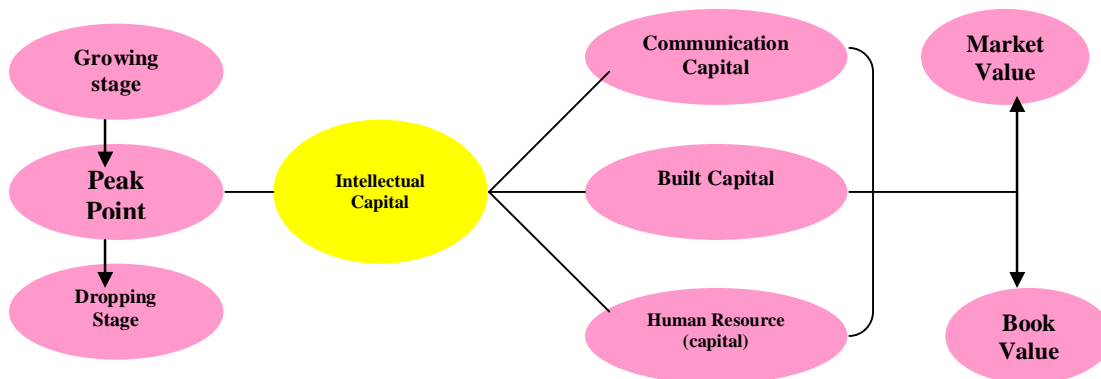
Applied research Regress ional Formula is as follow:
$$MV_{it}/BV_{it} = \alpha 1 \quad 1/BV_{it} + \alpha 2 NI_{it}/BV_{it} + \alpha 3 \quad IC_{it}/BV_{it} + \varepsilon_i$$
MV=market Value
BV= Book Value
NI = Net Income
IC = Intellectual Capital
RC= Relation Capital
SC= Structural Capital
HC= Human Capital

Intellectual Capital parameter	Definitions
Relation capital:(R.C)	
Income operational Growing. Rate(GROW)	The last and beginning of financial period or a period profit.
Main Customer Percentages (CUSTOM).	Sale capital (more than 10% buyer total or more
Concentration: (CON)……………..	Net sale gained from 3 main buyers (customer) divided to pure sale.
Structural capital (SC):	
Income Per employee (VAPE)…	Sale Total over Total Employees.
Capital circulating (CCTR)…	Total Sales over the average company Capital
Average Spending Rate (ASE)…......	Total Spending over the sales total
Human Capital :	
Employees Average Education level (EDU):..	Employees Average education level (based on years of study).
Employees Exchanging Rate (NER):.	Beginning of period Employees Totals / Subtractions of end and beginning of employees total)

Chart 1: Intellectual Capital measuring variables

Collecting Information-Source, Tools and methods:
Required information for this research collected from "Tehran Exchange Bonds info-bank", internet, Library, Magazines Etc. Spss, Excel Software's and some popular Iranian magazine such as "Rah Avard Novin" and "Tadbir-Pardaz" are used.

Statistic Society:
Tehran's Valuable Stock Bonds consists of entire Research statistic society companies. Out of 346 companies at the end of 2008, only 74 of them is selected to get the necessary information to specify the statistic samples needed In this research paper (not every co's included).
Since companies life cycle divided in five Establish, Growth, Peak, loose (crashing), and Death(closing) stages, therefore, in order to choose the sample companies, they should selected as they fit to search category.
So, selected companies should fulfill one of the following company's requirements:
1) Sample shouldn't be listed as one of the investment companies, banks, money involving/ handling companies etc.
2) Annual Tax report should hold/ Ended at the end of Iranian calendar year (last month of year-Esfand= March 20)
3) During research should not have 3 month holding/interruption operation (to get appropriate rate).
4) No finance or investment changes during this research.
5) Should be accept and being active on Tehran-Iran exchange Bond before 2002.

Information Analysis and discussing achieved Data:
Following / table2 shows the discussable variables in this research:

Table 2-discusable statistic's variable			
variables	Times of recoding	Average	Tolerances
Market values	518	4.0977	5.4868
Book Values	518	-1.1078	0.5282
Pure Profit	518	0.3955	0.2159
Growth income operating Rate	491	0.2155	0.2270
Main customer Rate	491	33.1870	39.5137
Concentration	491	36.5816	39.2167
Income per employee	466	1.4678	0.57222
Recycling current capital	466	1.5046	0.6308
Rate of operation spending	466	-0.2629	0.2407
Employees level of education	335	1.990	0.3640
Employees rate of replacement	335	-0.1140	0.1088

Via <u>Regration</u> examination the first theses 1should figured out either the relationship between Intellectual Capital and Market value indicators are is inline or not. The result of this examination is presenting the relationship between Intellectual Capital and market value (P- Value = 0). Thus, the relation between profit and the Book value with market value evaluate and this way the coefficient amount is determine (54%).
Sub thesis 1-1Connection Capital related to Market Value has contains increasing information. To approve this thesis and to examine it, through Rexioni model we have:
$MVt /BVt = \alpha0 + \alpha1\ 1/\ BVt + \alpha2NIt/BVt + \alpha3GROWt/BVt + \alpha4CUSTOMt/BVt + \alpha5CONt/BVt + \varepsilon$
CON, CUSTOM, GROW are the connection capital variable. Statistic F for rate of 124.967 ideal and it is at %95 safe. From other hand, Watson cameras with the rate of 1.759 approve the lack connection between interfered words. The coefficient rate of this Pattern is %44. In fact %44 of the company's market value will stable with 5 variables set in pattern. Comparing this coefficient with the calculated one through connection between Book Value and profit with Market Value prove that the Connection Capital in relate to company Market Value contains no increasing information.
Thesis 2-1Built Capital in related to Market Value contains increasing Information. To verifying this thesis following Rexioni model is used.
$MVt /BVt = \alpha0 + \alpha1\ 1/\ BVt + \alpha2NIt/BVt + \alpha3VAPEt/BVt + \alpha4CCTRt/BVt + \alpha5ASEt/BVt + \varepsilon$
VAPE, CCTR and ASE are Built Capital statistic F with the rate of 116.760 ideal and meaningful at safe level of 95%. Although Watson's statistic Camera at rate of 1.987 approves lack of dependency between interfered sentences. The coefficient of

this model is 50%. Actually fifty percent of companies Market Value variation set by above 5 listed variables. Comparing this computed coefficient via connection between Book Value and the Profit gained from market Value, resulted in Built Capital through Market Value consist of increasing information.

Sub thesis 1-3 Human Capital in relate to Market Value has increasing information value. To examine this thesis, we apply following Rexioni model:

$MVt /BVt = \alpha 0 + \alpha 1\ 1/ BVt + \alpha 2NIt/BVt + \alpha 3EDUt/BVt + \alpha 4NERt/BVt + \varepsilon$

EDU & NER are the Human Capital variable. F statistic at rate of 93.933 at safe level of 95 % is ideal & meaningful

Also, Watson Camera statistic at the rate of 2.022 will inform the lack of dependency of interfered sentences. The coefficient rate of this pattern is 53%. In fact 53 percent of variation in companies Market Value done by 4 above variables. Comparing this set coefficient with gained coefficient from calculation through connection between Book Value and Market value profit in which Human Capital in relation with companies constants has no increasing information.

Chart 3 the results of sub thesis1 in connect with thesis 1

Variable	Statistic "t"	p-value	Durbin-watson
Variable controller	…….	……..	Watson State :1.82
Book value	6.273	0.000	F-Statistic:259.616
Pure income	22.114	0.000	Sig (F-statistic):0.000
			R-Square: 0.54
Connection Capital			Watson State :1.759
Operation income growing rate	2.198	0.028	F-Statistic:116.760
Major customer rate	-2.75	0.038	Sig (F-statistic):0.000
Concentration	1.651	0.099	R-Square: 0.44
Built Capital			Watson State :1.987
Income per employee	-0.950	0.342	F-Statistic:124.967
Circulation Capital	1.689	0.092	Sig (F-statistic):0.000
Operational Spending Rate	-3.785	0.000	R-Square: 0.50
Human Capital			Watson State :2.022
Employee's Average training level	1.823	0.069	F-Statistic:93.933
Employee's replacement percentage	1.239	0.216	Sig (F-statistic):0.000
			R-Square: 0.53

After examining sub thesis companies under research classified in 3 cycle of their life cycle, the effect of Intellectual Capital divisions has been examined separately with the help of computer software named Mi nitab. As, every year achieved data separated based on life cycle variable (growing rate, pure rate of Capital expenses and rate of shared profit) In 5 divisions of: 1- grow, 2-grow-peak, 3-peak, 4-peak-down and 5- down.

Then those companies which did not go though the natural life cycle has discarded from research sample.

The variables specialty in life cycle stages is as follow:

Stages	Rate of sale	Capital 's rate of expenses	Rate of shared profit
Growing	20%	10%	40%
peak	19%	8%	78%
down	13%	7%	81%

To examine the sub thesis of main thesis 2, we use Rexioni patterns as is used in main thesis 1. As the inline dependent coefficient of each division of Human Capital at different cycle of company life has calculated and these coefficients compared together. The Quantity of available coefficients is as follows:

stages	Quantity of company
grow	57
peak	116
Drop/down grade	118

Sub thesis 1-2 contains communication Capital relative information in relate to companies Market value through 3 stages of Grow, peak and downing stages are different.

Sub thesis 2-2 contains built relative capital information in relation to companies Market Values through 3 stages of grow. Peak and down course are varied.

Sub thesis 2-3 contained relative Human Capital in relation to companies' market value through 3 grow, peak and downing stages are varied/ different.

In sub-thesis regarding 2nd thesis the effect of each part of Intellectual Capital through different stages of life cycle is examined, and the results of these tests are shown in chart no 5 below. The result expressing that; Intellectual Capital give the most information at the grow and peck, but give least information at dropping/closing stages to make decision occasion. In general; research result shows; Intellectual Capital provides such valuable information that related to gap between book value and office value. Also, Watson's camera statistics for Rexioni model sub thesis with lack of dependency of in Rexioni model's partial errors.

Chart 5 – results of sub theses related to main thesis2 exams:

Growing Stage			
Variables	**p-Value**	**Statistics (t)**	**Watson Camera**
Communication Capital	…	…	Stat: 1.633
Operation grow income rate	0.880	0.152	F-Statistic: 8.654
Main Customers ratio:	0.044	1.991	Sig (F-Statistic):0.000
Concentration:	0.032	-2.072	R:0.68
Built Capital	….	……	Watson Stat: 1.977
Add income per employee	0.038	-2.112	F-Statistic: 7.682
Current Capital circulation	0.434	0.789	Sig (F- Statistic):0.000
Operational expenses rate	0.978	-0.028	R:0.66
Human Capital	…	…	Stat: 1.633
Employees Education Avrg. Level	0.534	-0.627	F-Statistic: 8.654
Employees replacement percentage	0.042	-1.856	Sig (F-Statistic):0.000 R:0.68
Peak Stage			
	p-value	**Statistics t**	
Connection Capital			Stat: 2.060
F-Statistic : 25.660	0.020	2.363	F-Statistic: 25.660
Sig (F-Statistic): 0.000	0.040	-1.919	Sig (F-Statistic):0.000
R:0.785	0.435	0.784	R:0.73
Built Capital			Stat: 1.977
Income per employee	0.025	-2.266	F-Statistic: 24.215
Current Circulated Capital	0.793	-0.263	Sig (F-Statistic):0.000
Operational expanses rate	0.379	-0.883	R:0.725
Human Capital			Stat: 1.947
Employees average education level	0.028	-1.941	F-Statistic: 33.210
Employees Replacement percentage	0.498	-0.680	Sig (F-Statistic):0.000 R:0.785
Downing Stage			
variables	**p-value**	**Statistics t**	Watson camera
Connection Capital			Stat: 1.657
Operation income rate	0.043	2.043	F-Statistic: 8.372
Main Customer ratio rate	0.622	-0.495	Sig (F-Statistic):0.000
Concentration	0.233	1.20	R:0.47
Built Capital			Stat: 2.435
Income per employee	0.030	-2.194	F-Statistic: 7.651
Current Circulated Capital	0.725	0.352	Sig (F-Statistic):0.000
Operational expanses rate	0.773	-0.279	R: 0.51

Chart 6 – summary results of sub theses related to main thesis2 exams:

Chart 6: Summary Results of sub -Thesis related to main thesis 2				
Description	**Life stages**	**Connection Capital**	**Built Capital**	**Human capital**
Categorizing the effect of Intellectual Capital in each stage	grow	2nd. Category	2nd. Category	2nd. Category
	peak	1st. Category	1st. Category	1st. Category
	drop	3rd. Category	3rd. Category	3rd. Category
Comparing relative power between Intellectual Capital components in company's life cycles		Drop>Grow>Peck	Drop>Grow>Peck	Drop>Grow>Peck

Conclusion

This research is prepared to present the effect of Intellectual Capital Elements or components to the Market Value of companies. These companies are selected from "Tehran Valuable Bond / Stock market". The result of research shows that the

components of Intellectual Capital in relate to market value doesn't have increasing information content. But, the relative information contents of their Intellectual Capital components through different stages of their life cycle in that relation (relate to I.C) is varied. As, I.C have highest information on decision making at Grow & Peak stages and at dropping has the lowest info to make decision. In general, research result showed that the I.C consists of such valuable info that they directly related to the gap between companies Market Value & Book Values at different stages of their life cycle. In refer to comparing the result of other groups' researcher worldwide; it also proved the same (as comparing Anvari, Rostami, and Seraji; in years 2005 and Broking Associates 1966, Lia Chiong in 2008 Researches).

As compare to different research inside and outside of Iran we came to such result that the role of Intellectual Capital in financial operational and validate the Market Value of Companies, we suggest to Investors; as they compromising the companies financial & operational Analysis, in their final decision also precisely study and predict, include the affect of this research before setting a goal for a company to run and probably to fail in reaching the goal!

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