Examination of Relationship between Intellectual Capital and the Small Business Enterprises Performance in Guilan Province

Shahram Gilaninia[1]; Atefeh Asadi Matak[2]

[1]Associate professor, Department of Industrial Management, Rasht Branch, Islamic Azad University, Rasht, Iran
[2]M.A. Student of Business Management, Rasht Branch, Islamic Azad University, Rasht, Iran

ABSTRACT

The main objective of this study is examination of the relationship between intellectual capital and the small business enterprises performance in Guilan Province. This research according to study design is analytical - descriptive, with emphasis on the correlation based on the objectives is applied research. In present study, statistical society is small business enterprises in Guilan province that is 410 enterprises. Sample size is calculated 116 enterprises that were studied. In this research, method of data collection was field and Data collection tool has been questionnaire and also financial documents in enterprises. Results of the study show that there is relationship between the dimensions of intellectual capital (human capital, relational capital, and structural capital) on enterprises performance.

KEYWORDS*: Intellectual Capital, Small Firms, Structural Capital, Relational Capital, Human Capital.

1. INTRODUCTION

Today, many companies know knowledge as wealth (Gilaninia & et al, 2011). Many theorists in field of intellectual capital measurement believe when an organization is unable to measure subject, therefore, its management is incapable. In today's knowledge-based economies, the success of organizations is depends on their ability to manage these intangible assets. The current business environment is very different from the past (Gilaninia, zia khosoosi & et al, 2011). With the entry into knowledge-based economy are requires access to new models of organizational assets. Generally organizational assets are divided into two general categories:
1. Tangible assets: include physical and financial assets and are reflected in companies balance sheets. These assets are under the principles of economic scarcity and by more using of them is reduced their value.
2. Intangible assets: These assets are divided into two general categories:
2.1. Intangible assets that are protected under the law and are known as intellectual property and are including royalties and copyrights and trademarks that some of these issues are reflected in the balance sheet.
2.2. Other intangible assets are including intellectual capital, and act under the principles of abundance economics. In other words, by more using of them is not reduced their value and are usually not reflected in the balance sheet.
This study seeks to examine the relationship between intellectual capital as one of the intangible assets in small business enterprises in Guilan province and its possible relationship with the firm's performance.

2. LITERATURE REVIEW

For today organization design of indicators associated with intellectual capital measurement and its development is important. In fact high speed of social changes and business environment, today knowledge has introduced as the new stimulant motor in development organization. Globalization has resulted in increased competition (Gilaninia, Shabgoo, Mousavian, 2011; Gilaninia& et al, 2011). Organizations to participate in modern market, in every shape and form have need to information and knowledge to improve their performance. Performed studies indicate increasing of 60 to 75 percent in the value of intellectual capital and non-tangible assets in companies' stock price (Lev, 2002). In complex global environment, unpredictable changes, time and uncertainty play an important role (Rezvani& et al, 2011; Gilaninia & et al, 2011).Review of trends and economic statistics have admitted on the accuracy of this statement, so the survey was conducted five hundred companies since 1982 AD to 1992 AD, shows the growing share of intangible assets value from 38 percent to 62 percent in market value. Attention to this subject in end of nineties decade, investment in the development of Intangible assets has led to figure equivalent of a trillion dollars - approximately equal to the total manufacturing sector Investment in physical capital-(Nakamura,2003). Each organization has special philosophy, beliefs, values and norms (Gilaninia & et al, 2012) and is based on today's most successful opening from "significant scope for innovation,"

---

*Corresponding Author: Shahram Gilaninia, Associate professor, Department of Industrial Management, Rasht Branch, Islamic Azad University, Rasht, Iran. E-mail:gilani_sh45@yahoo.com

focus to each organization that this The origin of innovation is in technology, the skills and knowledge of employees' organization and as mentioned earlier, first and original material as well as in intellectual capital is knowledge and information. Knowledge is considered a key resource in intelligent decision making, forecasting, design, planning, troubleshooting and diagnosis, analysis and evaluation and intuitive judgments. Knowledge has capabilities of formation and sharing among individuals and groups (Tiwana, 2000). Thus, in terms of functional knowledge is as a strategic resource that from this perspective, the need to establish compatible management in order to achieve competitive advantage and increased acquisition value is appear through performance of knowledge-based organizations. Intellectual capital is the topic theoretically that has been raised in recent years at international level. But as the source is considered valuable for countries and organizations, the amount of its development is rapidly becoming to the indicator in countries development. On the other hand, this intangible resource is discussed as one of most value-added resources in companies and the key investments in growth of entrepreneurship. Hence, today necessity of developing and managing intellectual capital has become to a serious commitment at the national and macro level in the field of business. Nowadays with the development field of competitive (Gilaninia & et al, 2011), Management of intellectual capital help to organizations to greater success in future prospects of competitive markets. However, according to studies and efforts has been done in current decades, it seems that final years this decade and early next decade be decisive years for different countries and organizations in the field of intellectual capital management (Khavand Kar & et al,2009).

However, in this research intellectual capital and its dimension are independent variables and business enterprises Performance is the dependent variable. Thus main question of research is as follows:
Is there relationship between intellectual capital and business enterprises performance in Guilan province?
In this study is used Bontis intellectual capital model. Bontis in intellectual capital model considered three dimensions in it that they are include:
1- Structural Capital 2-Relational Capital 3- Human capital
In this study, purpose of the performance is financial performance. The financial performance is rate of return in Guilan province and is measured based on Return on Assets (ROA).

$$ROA = \frac{\text{Net profit}}{\text{Total assets}}$$

About the relationship between intellectual capital and performance, Bontis(2000) and et al a study conducted with title intellectual capital and business performance in Malaysian industries (Service and manufacturing industries) that these results indicate : there is interaction relationships between the components of intellectual capital and this capital has middle effect in business performance about 20 to 30 percent .In another study Bontis (1998) with title intellectual capital: an exploratory study that develops measures and models in Canada country done, the results showed that there are interrelationships between the components of intellectual capital and three capital of human and structural and relational have effects on business performance significantly. Thus research model is as follows:
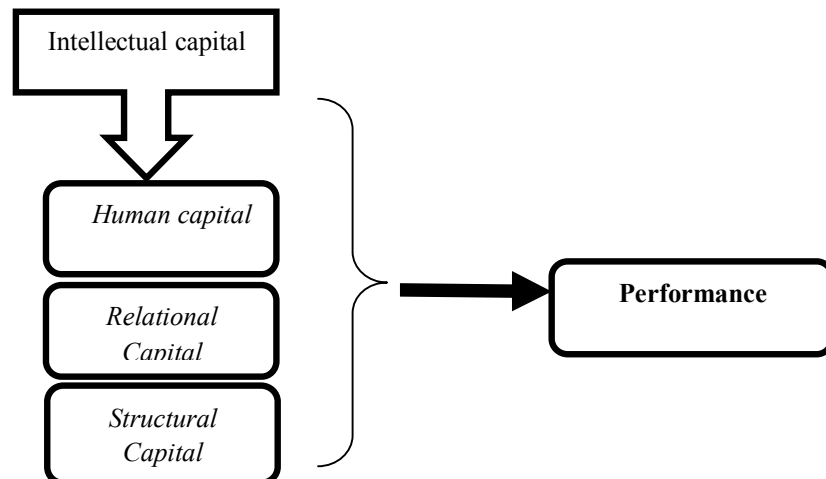

Figure (1) conceptual model for research

2.1. Intellectual capital

Bontis believes that intellectual capital is efforts for the effective use of knowledge (final product) in against data (raw material). Intellectual capital is providing a new resource base that organization can compete through it (Bontis, 1998). Bontis in intellectual capital model has considered three dimensions that they include:

1- Human Capital: Refers to human resources of knowledge organization such as skills, abilities, knowledge, leadership styles, competencies, attitudes and mental agility of human resources. Human capital is caused; largely the organizations are dependent on knowledge and skills of their employees for creation income, growth and also improve efficiency and productivity (Westphalen, S, 1999).

2 - Structural capital: Refers to inhuman resources of organization knowledge that including databases, organizational charts, work instructions, systems and procedures, strategies, processes and technology. More clear words, Roos & et al (Roos,J.; Roos, G.,1999) believe that structural capital is "whatever remains in company after employees go home at night". Structural capital is function of human capital. Therefore, structural capital and human capital interact with each other help to organizations that as coordinate develop and operate and form customers' capital.

3- Relational Capital: Refers to existing knowledge in existing relationships in organization relationships with its external stakeholders include customers, suppliers, investors, competitors, and partners. Growth of relational capital is depends on support of human capital and structural capital. In general, relational capital acts as a bridge and intermediary in intellectual capital process is the main determinant and conversion intellectual capital to market value and as a result business performance of organization (Chen &et al, 2004).

2.2. Performance

Many articles and books the output organization is called as performance. Researchers in studies related to the commercial performance are used the different components for its measuring. Few researchers closely performance components put in groups and have named them. For example Pelham (1997) performance components have put in three categories: organizational effectiveness, growth / share, and profitability. chiquan (2002) is divided performance components to two categories:

- Market performance: including a component of customer retention, attract new customers.
- Financial performance: including components of return on assets rate, market share, and sales growth.

In this study, purpose of the performance is financial performance. The financial performance is rate of return in Guilan province and is measured based on return on assets that these indicators are considered for 2008 and 2009 and 2010 years.

3. Research Hypotheses

3.1. The main hypothesis: there is a significant relationship between amount of intellectual capital and business enterprises financial performance in Guilan province.

3.2. Sub hypotheses

1- There is a significant relationship between amount of human capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

2- There is a significant relationship between amount of structural capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

3- There is a significant relationship between amount of relational capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

4. RESEARCH METHOD

This research according to study design is analytical - descriptive, with emphasis on the correlation based on the objectives is applied research. In present study, statistical society is small business enterprises in Guilan province. by using census data of manufacturing enterprise in Guilan is done by management and planning organization in Gilan province in 2006, it was determined that the total number of active medium and small enterprises (10 to 49 employees) has been 410 enterprises. For determining sample size is used the following formula.

$$n = \frac{Z_{\frac{a}{2}}^2 . S_x^2 . N}{e^2 N - e^2 + \left(Z_{\frac{a}{2}}^2 . S_x^2 \right)} \qquad \frac{(1.96)^2 .(0.324)^2 .410}{(0.05)^2 .(410) - (0.05)^2 + \left((1.96)^2 .(0.324)^2 \right)} = 116$$

Thus sample size was calculated 116 enterprises that were studied. In This research, a method of data collection was field and Data collection tool has been questionnaire and also financial documents in enterprises. For validity of the questionnaire content validity of the method is used and to determine the reliability was used Cronbach's alpha method that were calculated by the software SPSS for set questions to each variable. The alpha coefficient was more than 70 percent. Thus questionnaire has reliability.

Table (1) Cronbach's alpha coefficient for Variables

Variables	Cronbach's alpha
Human capital	81/6%
Structural Capital	80/1%
Relational Capital	77/2%
Total Questions of intellectual capital variables	82/3%

To test the research hypothesis was used the Pearson Correlation coefficient test.

5. Research Findings

***The main hypothesis*:** there is a significant relationship between amount of intellectual capital and business enterprises financial performance in Guilan province.

$H_0: \mu = 0$

$H_1: \mu \neq 0$

H_0: there isn't a significant relationship between amount of intellectual capital and business enterprises financial performance in Guilan province.

H_1: there is a significant relationship between amount of intellectual capital and business enterprises financial performance in Guilan province.

Table (2) Correlation coefficient between intellectual capital and performance

Variables	Number	amount of Correlation coefficient	Sig	Result
intellectual capital and performance	116	0.46	0/000	Confirmed

According to above table can be observed sig =0/000 <0/01. So with 99% confidence H_0 is rejected and H_1 is confirmed and this relation is significant. Also according to this table can be said correlation intensity between two variables intellectual capital and performance is +46 % that this indicates direct relationship between two variables.

Sub-Hypothesis 1: There is a significant relationship between amount of Human capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

$H_0: \mu = 0$

$H_1: \mu \neq 0$

H_0: There isn't a significant relationship between amount of Human capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

H_1: There is a significant relationship between amount of Human capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

Table (3) Correlation coefficient between human capital and performance

Variables	Number	amount of Correlation coefficient	Sig	Result
Human capital and performance	116	39/7	0/000	Confirmed

According to above table can be observed sig =0/000 <0/001. So with 99% confidence H_0 is rejected and H_1 is confirmed and this relation is significant. Also according to this table can be said correlation intensity between two variables human capital and performance is +39/7 % that this indicates direct relationship between two variables.

Sub-Hypothesis 2: There is a significant relationship between amount of structural capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

$H_0: \mu = 0$

$H_1: \mu \neq 0$

H_0: There isn't a significant relationship between amount of structural capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

H_1: There is a significant relationship between amount of structural capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

Table (4) Correlation coefficient between structural capital and performance

Variables	Number	amount of Correlation coefficient	Sig	Result
Structural Capital and performance	116	36/1	0/000	Confirmed

According to above table can be observed sig =0/000 <0/01. So with 99% confidence H_0 is rejected and H_1 is confirmed and this relation is significant. Also according to this table can be said correlation intensity between two variables Structural Capital and performance is +36/1 % that this indicates direct relationship between two variables.

Sub-Hypothesis 3: There is a significant relationship between amount of relational capital dimension in intellectual capital and business enterprises Financial Performance in Guilan province.

H_0:μ=0

H_1:$\mu\neq$0

H_0: There isn't a significant relationship between amount of relational capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

H_1: There is a significant relationship between amount of relational capital dimension in intellectual capital and business enterprises financial performance in Guilan province.

Table (5) Correlation coefficient between relational capital and performance

Variables	Number	amount of Correlation coefficient	Sig	Result
Relational Capital and performance	116	31/2	0/000	Confirmed

According to above table can be observed sig =0/000 <0/01. So with 99% confidence H_0 is rejected and H_1 is confirmed and this relation is significant. Also according to this table can be said correlation intensity between two variables relational capital and performance is + 31/2 % that this indicates direct relationship between two variables.

6. Conclusions and Suggestions

So far much research has been conducted about the impact of intellectual capital on organizational performance, thus can be said that there is relatively wide changes in correlation between dimension of intellectual capital on organizational performance that may is caused failure for create visualization in dimension of intellectual capital. Previous findings can provide important empirical justification for further research in the field of intellectual capital. Also in this study we are showed in line with research done that intellectual capital has a positive impact on company performance.

In order to the results of testing hypotheses following suggestions are offered:

According to Pearson correlation test results that is express relationship between intellectual capital and the performance. It is suggested that intellectual capital as an intangible asset became the optimal management in all companies. Because results show that in companies surveyed, intellectual capital are higher than average level. If managed correctly they can be effective in improving companies' performance.

In the first sub-hypotheses that the relationship between human capital and performance was confirmed following suggestions are offered.

1 - System design for training successor instead of the company's key employees.

2 - System design for support and encourage the best ideas of employees in order to use of them timely in companies planning process.

3 - Design and deployment of human capital performance management processes in enterprise.

4 - Continuous measuring in the competence level of employees and use of improvement program in employees.

5 - To establish the correct relationship between the levels of wages and bonuses payment of employees and the level of individual competence and performance in company.

6 - Design and create systems to measure job satisfaction of employees in company and adopt decisions for removing barriers to achieving job satisfaction

7 - Providing training and consulting and organizational opportunities to help employees' performance improve.

In the second sub-hypotheses that the relationship between structural capital and performance was confirmed following suggestions are offered.

1- Elimination of cumbersome rules and regulations, redundant business practices and a complex hierarchy in order to reduce level of bureaucracy in organization.

2 - Trying to create a supportive culture through measurement and reward systems designed to promote creativity and innovation, learning and development of organization human resources.

3 - The use of the recommendations system within organization to get employees comments and implementation comments in future planning of organization.

4 – Allocation to more time and budget and in fact, attention to the applied research and development and close cooperation and interaction with references and academic circles and using their knowledge and experiences in future planning of organization.

5 - The use of information systems that enable easy to achieving information.

In the third sub-hypotheses that the relationship between relational capital and performance was confirmed following suggestions are offered.

1 - Employment and train and to create motivate and empower employees so that they can provide service with quality and in order to increase customer.

2 - Improving attitude in services supply with quality to customers among all members of the company.

3 - Continuous monitoring of customer satisfaction.

Suggestions for future research:

1 - The relationship between intellectual capital and companies' performance, according to industry type.

2 - Measurement amount of intellectual capital in companies by using quantitative models.

3 - Examine of the relationship between intellectual capital and companies' business performance.

REFERENCES

Bontis, N., (1998)."Intellectual capital: an exploratory study that develops measures and models", Management Decision, Vol. 36 Iss: 2, pp.63 - 76

Bontis, N., (1998). "Managing organizational Knowledge by diagnosing intellectual capital: framing and advancing the state of the field", International Journal of technology Management, Vol.18 No.5/6.

Bontis, N., et al., 2000. Intellectual capital and business performance in Malaysian industries. Journal of Intellectual Capital 1 (1), 85–100.

Bontis, Nick. (1996). "There's a Price on your Head: Managing Intellectual Capital Strategically", Business Quarterly, summer, pp. 40-47.

Chen, J., Zhu, Z. and Xie, H.Y. (2004) «Measuring Intellectual Capital: a New Model and Empirical Study», Journal of Intellectual Capital; Vol. 5, No. 1, pp. 195-212.

Gilaninia,Sh;Mousavian,S.J;Deray,S;Ebrahimi,A.A;Talebian   Soufi,Z;Akhavan,S;   Taskini,A;Tavasoli,A.S; Zadbagher Seighalani, F. (2011). Assess the Impact of Internet Advertising on the performance of Industrial Marketing Units, Interdisciplinary Journal of Contemporary Research in Business, VOL 3, NO 8,pp 479-488.

Gilaninia,Sh;Mousavian,S.J;Ghorbani Ghavidel Boeini,S;Najafpour,A; Najibzadeh,M;Esmaeili,H;Babaei,M; Zadbagher Seighalani,F.(2011). Challenges Application of E-Commerce in Iran, Interdisciplinary Journal Of Contemporary Research In Business, VOL 3, NO 8.pp 497-507.

Gilaninia.Sh& Alipour.H,Zia Khosoosi.M& Mousavian.J.(2011) . CRM Application Impact on Customer Satisfaction in Financial and Credit Institutions (Case study: Financial and Credit Institutions in Guilan, Iran). journal of basic and applied scientific research. 1(8),pp.956-963.

Gilaninia,sh; Taleghani,M; Mousavian,S.J. Nadem,M; Alehojjat,S; Mahdavi,A; Shadrouh,Z; Torabi,A; Zadbagher Seighalani,F.(2012). Investigate the Relationship between Readiness Level Managers to Implement Total Quality Management with Organizational Culture and Effectiveness of Managers (Case study: managers of Islamic Azad University in Guilan province), Kuwait Chapter of Arabian Journal of Business and Management Review Vol. 1, No.5; pp138-147.

Gilaninia,Sh; Taleghani,M; Mousavian,S.J; Kouchaki Tajani,T; Ghoreishi,S.M; Shahidi,S.F; Zadbagher Seighalani, F.(2011). Comparative Study of Lean And Agile Supply Chain Management Along With the Optimal Model Presentation of Agile Supply Chain Management, Kuwait Chapter of Arabian Journal of Business and Management Review,Vol. 1, No.4; pp 46-56.

Gilaninia,Sh;Ganjinia,H;Babaei,Z;Mousavian,S.J.(2011). Dimensions of Knowledge Management on Good Urban Governance (Case Study: Municipality of Rasht City, Iran), Journal of Management and Strategy, Vol. 2, No. 3; PP 91-101.

Guo, Chiquan (2002), "Market orientation and business performance", *European Journal of Marketing",* Vol. 36 No. 9/10, pp. 1154-1163.

Khavandjar ,Jalil; Khavandkar, Ehsan; Mottaghi,. (2009) . intellectual capital management, development and evaluation models, Press of Training Centre and Industrial Research of Iran, second edition.
Lev, B. (2002), Intangibles: Management Measurement and Reporting, Brookingsnstitution,Washington, DC.

Nakamura, L. (2003), "Intangibles: what put the new in the new economy?", Business Review,July/August, Federal Reserve Bank of Philadelphia, Philadelphia, PA, pp. 3-19.
Pelham, A.M. (1997) "Mediating Influences on the Relationship between Market Orientation and Profitability in Small Industrial Firms" *Journal of Marketing Theory and Practice* 5(3):55-76.

Rezvani,Mousa; Gilaninia,Sh; Mousavian,S.J.(2011). Strategic Planning: A Tool For Managing Organizations

In Competitive Environments, Australian Journal of Basic and Applied Sciences, 5(9): pp1537-1546.

Roos, J, Roos, G., Dragonetti, N.C. and Edvinsson, L. (1997) Intellectual Capital: Navigating in the New Business Landscape, Macmillan, Houndsmills, Basingtoke.

Serenko, A. and Bontis, N. (2004) Meta-review of knowledge management and intellectual capital literature: citation impact and research productivity rankings, Knowledge and process management, 11(3), pp. 185-198.

Shabgoo Monsef,S.M;Gilaninia,Sh;Mousavian,S.J.(2011). Consumers' Brand Origin Recognition Accuracy Scores: an Empirical Investigation, Australian Journal of Basic and Applied Sciences, 5(8): 1435-1448.

Tiwana,Amrit. (2000)"the knowledge management toolkit" rentice hall ptr upper saddle river